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A NUTRITION STUDY ON AN INDIAN RESERVATION

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It is generally believed that the American Indian is gradually dying off and that in a few more generations this race will be practically extinct. The explanation most commonly accepted for this situation is the change from the natural outdoor, nomadic life to one of restricted physical exertion and of indoor housing on the reservations. To nutritionists, however, the change in dietary which has resulted from such domestication appears to be a highly important factor in this deterioration. The junior writer of this article became convinced of this through informal observations on the Indian reservation near which she lives; and the value of a definite survey of a group of Indians such as could easily be made by her on this reservation suggested itself.

This study was therefore made of the diets, methods of living, and physical condition of the Sioux Indians of the Crow Creek Reservation, Fort Thompson, South Dakota, the purpose being—as already suggested—to secure first hand information on the living conditions of these Indians, and to determine insofar as possible whether the diets were such as to account for the physical conditions found.

The literature on the subject was first surveyed in order to have in mind the diets and physical conditions of Indians in their native state. Following this, a house-to-house visit was made on the reservation to learn as fully as possible concerning their diets and physical status at the present time. This survey covered 67 families which included 323 individuals, or about one-third of the Indian population on the reservation. Of this number 192 were children and the remaining 131 were adults.

The data were obtained by personal observations and by means of a questionnaire taken in person from an adult member of the family. This information was verified and supplemented by searching through government records, and by interviews with the issue clerk, the storekeepers, the school teachers, and the government physicians.

THE PRIMITIVE INDIAN

The literature alone reveals a mass of material which makes an interesting study in itself; but owing to limitations of space only a brief summary of points pertinent to this study can be made here. For further details the reader is referred to the Original Journals of Lewis and Clark, Haupt's "North American Indians," and other selected references at the close of this paper.

Most writers agree that the adult Indian was, as a rule, a fine physical specimen. Nevertheless even the earliest writers call attention to the sore eyes and defective vision found in certain tribes and also to the prevalence of poor teeth, rheumatism, and venereal disease. Indications of what was probably tuberculosis were evident, moreover, early in the nineteenth century, reference being made even then to a peculiar kind of whooping cough which carried off aged and infirm persons and young children.

There is some diversity of opinion as to the diets of the early Indians, due probably to the fact that studies were made of different tribes and at different times of the year. However, it appears in general that the tribes that ate the Indian diet at its best had a fairly adequate diet, at least in summer. This consisted largely of meat which included all parts of the animal—the internal organs, the bone marrow, and gristle—with liberal supplies of wild turnips, whole corn, and wild berries. But if—as it appears from the literature was often the case—the Indians failed to dry enough wild vegetables and fruits for winter use, or game was scarce and they were compelled to live on a vegetable diet of roots and herbs, their diets would be plainly lacking in some of the necessary constituents, and this inadequacy probably resulted in physical impairment. At least when reports are made on the physical condition of the Indians their condition seems quite in keeping with the type of food eaten.

With this fragmentary picture of the primitive Indian and his food before us, it is interesting to turn to a definite tribe of Indians to see how they live and thrive in modern times. Because of the necessity of con-

densation, the description will be confined chiefly to the diet and physical status, with only a brief summary of some important facts about housing and sanitation.

HOUSING AND SANITATION

In agreement with Haupt who said, "Houses made for the Indians were totally unfit for occupancy," it was found that over three-fourths of the Indian families visited lived in one- or two-room shacks, inadequately lighted and poorly ventilated. Since houses were small, sleeping rooms were naturally congested. In over one-half of the families from four to eight people slept in one room. Sanitation was likewise poor. Twenty-eight of the 67 families, including 40 per cent of the children, lived in homes without toilet facilities. The source of the water supply was evidently satisfactory, but the method of keeping it was very unsanitary in most cases. After being hauled from the river the water was kept in open containers exposed to dust and insects. The sanitation of the food supply was equally bad, as will be shown later. Such conditions obviously give ample opportunity for the dissemination of disease germs, and fully explain the rapid spread of infectious diseases once they are introduced into a tribe.

DIET

Eating habits of the Indians are somewhat irregular. More than half of the families have no regular hours for meals, and almost two-thirds eat between meals. A large majority of the families never eat at tables, but sit on the ground around the open fire in summer, and wherever floor space in the house permits in winter.

USE OF SPECIFIC FOODS

Bread and Cereals. That bread is the staff of life is particularly true of Indian families, but the kind of bread used is not conducive to good health. "Grease bread" is very much to their liking and as the name indicates is bread or biscuit dough fried in fat. All of the bread eaten by Indian families is made from white flour. With three-fourths of the families, oatmeal was the most commonly used cereal other than bread, while the remaining one-fourth were practically without this type of cereal. Cereals are served with sugar and milk if the family is fortunate enough to have fresh milk; otherwise black coffee, or coffee with canned milk in it, is poured over the cereal, even for the youngest member of the family.

Vegetables and fruits. This study was made at a time of year when it is possible to obtain fresh fruits and vegetables in abundance, but these foods formed an insignificant part of the diet of most Indian families. Potatoes and beans were quite commonly used, but the so-called green vegetables were found in the diets of only about half of the families, and then in only small amounts. Other than potatoes and beans, the most popular vegetables were squash and canned tomatoes. About one-half of the families used no fruit, or a small quantity of dried, such as raisins, prunes, or chokecherries. Most of those using fresh fruit stated that it was purchased in amounts of about 25 cents worth once a month. Grapes, chokecherries, and wild plums grow wild in this section of the country. Among a few of the younger women this fruit is utilized for making jelly or canning for sauce, while drying is the method preferred by the older women. This dried fruit is cooked in a large amount of water, sweetened with sugar, and flour is added to thicken. This gravy, as they call it, is very good on bread, according to the donor of the recipe. That Sioux Indians were never in the habit of eating much fruit and vegetables is indicated by statements of writers that these Indians were "essentially carnivorous" and that fruit and vegetables formed an uncertain and variable part of the diet.

Butter and eggs. Butter and eggs were not a part of the diet of the primitive Indian and even today these foods are not much used. About one-fourth of the families used neither eggs nor butter. Among those who use butter, a pound a month was a not uncommon amount. Lard and other fats were chiefly used instead of it. That eggs have no prominence in the diet is shown by the fact that in no case were eggs served in the day's dietary as secured for the 67 families at the time of this study.

Milk. Hrdlicka writes of the Southwestern Indians that milk is either disliked or little used. That this is also true of the Sioux is borne out by the fact that two-thirds of the children between the ages of one and thirteen years do not drink milk. Considerably over one-third of the families use no milk, less than one-third use canned milk and very little of that, and about the same number use fresh milk in small amounts and often irregularly. On the other hand, coffee is used very much and, as Hrdlicka says, is given to children of all ages, even infants.

Meat. If it were not for lack of money meat would no doubt be served as regularly in the average Sioux home as bread and coffee. It was the meat from buffalo, skunk, prairie dog, and other small animals which made up the greater part of their diet before the establishment of

reservations, and it is these meats which they still say are "healthy for Indians." The reason for this view can be found in accounts of the diets of early Sioux tribes. Buffalo meat was the principal item of food, and other foods were used either when buffalo were scarce or for the purpose of adding a little flavor to the meat. The method of preparation is much the same now as in earlier days. For all of the older families and many of the younger ones, the meat is dried before using. This is accomplished by hanging it above the stove in winter, or out in the sun in summer, and the Indians are not at all particular where it hangs so long as it is out of the reach of dogs. The writer has seen it hanging on barbed wire fences, on wagon boxes, and other places no more desirable. One of the government physicians reported examining a piece of this "jerked beef," as they call it, and finding it to be perforated with holes and nearly falling apart due to maggots and flies.

After going through the drying process the meat may be prepared several ways, the favorite of which is cooking in a large amount of water to make soup or pounding up or pulversing the meat, adding fat or bone marrow, and chokecherries which have been pounded up, seeds included. This last mixture of dried meat, bone marrow, and chokecherries is formed into little balls, dried, and stored away. "Wasna," which is the name given to it, is then served as a delicacy on very special occasions. Wasna is referrred to as pemmican by most writers.

Young dogs are still eaten by quite a few, and the method of preparation according to one Indian is as follows: After the animal is skinned it is first cooked in soda water for a short time. This water is again thrown off, and after cooking the third time the meat is good to eat and is made into soup.

Five hours' observation at the slaughter house on issue day gives one a little insight into several phases of the Indians' life. If the men are along they usually are on the inside of the slaughter house, watching the animals being killed and cut up. The women form in groups on the outside waiting for their turn to get their meat. When a name is called a woman enters the slaughter house and comes out dragging a huge piece of meat over the board planks on which the animal walked only an hour previously, perhaps. Another woman often comes to her rescue and helps her lift it into the wagon. Some of the women have old blankets, not at all clean looking, to wrap around the meat. The women take turns at getting the paunch (cow's stomach) which they say makes the very best soup, and unborn calves are considered especially desirable. When the Indians leave the slaughter house, the

horns and hoofs are all that remain; everything else is taken for food. On cool autumn days a fire is built near by, and after pressing the fecal material out with the fingers the intestine is wrapped on a stick, cooked over the fire for a short time, and then eaten with much relish. This is a rare treat but seldom obtained now.

To each person on the ration roll 25 to 40 pounds of beef are issued each month, but this is not an indication of the amount consumed by each person; for the families who receive rations are not left alone to eat them. Issue day is visiting day for the families not on the ration roll, and often the visit lasts until the friends' or relatives' rations of meat are gone. The ration family, therefore, may be compelled to live on bread and coffee for the remainder of the month. Thus, although the Indian's desire for meat is great, the amount actually eaten is usually less than his desire.

ADEQUACY OF THE DIETS

It is obvious from the above that the diets of the Indians studied are generally poor. With milk low—not over a quart a day for a family at the best and the supply irregular—the calcium would be strikingly low. Practically the only source would be from the navy beans and a small number of oranges which a few families purchased occasionally. With calcium low, phosphorus would probably be correspondingly below requirements. Since butter, green vegetables, and eggs were little used, vitamin A as well as iron would be lacking in these diets. With the exception of a little fruit and canned tomatoes eaten by a few families, a source of vitamin C would also be almost entirely lacking. Protein might be sufficient at least for a portion of the time, and the antirachitic factor is probably obtained from sunlight in summer when much of the time is spent out of doors, though there is no evident source of this vitamin in the winter months. The common use of cathartics, as well as the small consumption of fruits and vegetables, indicates that the diets are lacking in laxative qualities.

Judging the individual family diets by the standard requirements of an adequate diet, there were at the time of the study 5 families, including 10 children, that were receiving a diet which appeared to be fairly adequate, that is, a diet containing meat and a small amount of milk, vegetables, and fruits, in addition to the usual bread and cereals. This, however, was a period when fresh fruits and vegetables could be obtained in abundance, but there is a question as to whether even these diets would be adequate for the entire year. In contrast with these, almost two-

thirds of the families, including 138 children, were receiving distinctly inadequate diets. Of these, 15 families, with 32 children, were living chiefly on bread and coffee.

PHYSICAL STATUS

Although no medical examinations or other definite method of assessing the physical status of these families was available, certain aspects of the health problem were evident from government records, from observation, and from the testimony of the physicians. As roughly noted by the observer, 40 per cent of the adult women, 27 per cent of the men, and 11 per cent of the children would be termed distinctly fat, while 21 per cent of the women, 25 per cent of the men, and 27 per cent of the children were extremely thin, the remainder being classed as medium. Although no counts were taken, even a casual observer could not fail to note the great prevalence of decayed teeth, of bow legs, and of sore eyes and blindness among these families.

One of the striking revelations of the records was the high mortality among the children. In these 67 families, 356 children are reported as being born. Of this number 164 are known to be dead, but this is not all, for 9 families did not know the number dead. In the 58 families who reported their dead there were 161 children living and 164, or more than a half, dead. One-third of this number died under two years of age, and nearly half before seven years of age. Almost without exception Indian babies are breast fed; otherwise, physicians state, the death rate would be even greater.

There was some difficulty in securing information in regard to the causes of death; but of the 107 known deaths for which the cause was known, one-half died from tuberculosis, and one-third from pneumonia and influenza. Thus almost 85 per cent of the deaths were from infectious respiratory diseases. Of the 17 deaths from other causes, at least one was due to syphilis. Means of diagnosing venereal diseases are not easily available, so deaths from such diseases are usually reported as due to some other cause.

Although no definite conclusions can be drawn as to a cause and effect relationship between the diets and the physical findings, it is obvious that the dietary deficiencies are such as would be expected to produce the types of physical deterioration found. The lack of calcium, which is essential for skeletal development, shows its effects in the prominence of poor teeth and bow legs. The prevalence of sore eyes and blindness—

although it may of course be due to trachoma, venereal disease, or other cause—could be attributed to xeropthalmia caused by the extreme lack of vitamin A in the diets. In view of the demonstrated relation of vitamin A to the prevention of tuberculosis and of respiratory infections in general, the fact that 85 per cent of the deaths from known causes were due to these infections strongly suggests that the diet, which is especially low in vitamin A, may be a big determining factor in these conditions. It is a significant fact that one-third of the 164 children dead belonged to the 15 families whose diet was principally bread and coffee.

It may be stated in conclusion, therefore, that both bad sanitation and inadequate diets are doubtless responsible for the physical deterioration of the Indians on this reservation. Without in any way minimizing the importance of sanitary factors, it should be emphasized that the deficiencies of the diets are of such type and degree as to make them alone sufficient to account for the physical deterioration. It seems probable, indeed, that diet may be the fundamental responsible factor.

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DIET AND PREGNANCY[1]

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Many primitive peoples pay little or no attention to the food which women need during pregnancy and shortly after its termination. In his book on labor among primitive people, Engelmann mentions diets varying from those bordering on starvation of the new mother among certain Russian tribes, to the no meat, fish or game diet for the husband for five days following delivery among certain American Indians. The uncertainty of the results which followed any particular diet was, until recently, an indication of the widespread divergence of opinion. For a better understanding of the subject the physiology of pregnancy may be briefly considered.

Pregnancy is the test of bodily soundness, and any organ in the body that functions below par will show the strain imposed upon it. Every part of the mother's body is influenced or affected by pregnancy. The uterus becomes much larger, the breasts enlarge and secrete fluid, the heart seems to enlarge slightly; all mucous membranes are congested which may account to some extent for the frequency of minor digestive disturbances, though they are probably influenced more by mechanical distention of the abdomen, lessened exercise, increased tendency to constipation, and change in diet. The liver, kidneys and glands of internal secretion all undergo changes during pregnancy. The liver is very unstable at this time, probably because of the excessive demands made upon it in secreting bile to aid fat digestion and to act as a reservoir for the storage of glycogen. The kidneys are also under a strain, not only to eliminate for both mother and child, but they may be affected following toxemia associated with liver damage.

The impregnated ovum at once imbeds itself in the lining of the uterus and grows more rapidly than any other form of tumor. At this time it requires large quantities of food, which is stored as glycogen mainly in the liver, and to some extent in the muscles of the body. Kerwin has

[1] Read before the Tenth Annual Meeting of the American Dietetic Association, October 19, 1927, St. Louis, Mo.

shown that there is an increased amount of hydrochloric acid belched up into the mouth which corrodes the enamel of the teeth, while Arzt examined the contents of the stomach and found that many women affected with nausea and vomiting during pregnancy had a deficiency of hydrochloric acid, due partly to its loss in the vomitus and partly to the neutralization of hydrochloric acid in the stomach by the regurgitation of alkaline intestinal contents. There are thus many factors concerned with the well-being of the pregnant woman and any disturbance of function may damage other organs more or less distant.

The increased demand placed upon the pregnant woman also demands an increased amount of food and fluids. Food is necessary to supply energy. A poorly fed person would rather suffer starvation than attempt work because of lack of energy and strength. The normal gain in weight during pregnancy is estimated by Davis as being about 20 pounds above the normal non-pregnant weight. He feels that abnormal weight relations are the result of definite disturbances, whether weight is too high or too low for the normal figure. Smith investigated 6162 cases delivered in London and Dublin hospitals and concluded that,

> A state of bad nutrition of the mother at the time of labor, due to insufficient food (1) greatly increases the percentage of dead births and premature births, (2) slightly decreases the average weight of the fulltime baby at birth, (3) definitely increases the postnatal mortality, (4) has little if any effect during the first eight or ten days on the progress of babies who live during that time, (5) and probably increases the death-rate of babies during the first three or four days of life. A state of good nutrition of the mother at the time of labor, on the other hand, (1) considerably increases the average weight of the fulltime babies at birth and (2) increases the number of mothers who are able to suckle the baby during the first eight or ten days after birth, quite apart from the use of an ample diet during this time. These figures also suggest that, on the whole, a state of average nutrition is a most favorable condition.

Lusk states that the growth of the breasts, uterine muscle and the embryo itself requires the expenditure of energy to maintain the new organism, hence the appetite of the mother increases during pregnancy. He advises a diet rich in calcium during the last ten weeks of pregnancy and thinks cow's milk highly desirable for its calcium content. Rubner mentions that the weight of the embryo is very little during the first half of pregnancy, that the child's weight at term is 5 to 6 per cent that of the mother, the mother losing during labor the equivalent of 20 per cent of her weight following the termination of her pregnancy.

Because of the increased fat content in the body of the pregnant woman, amounting to perhaps one-third more than in the non-pregnant state, the caloric need is best supplied from carbohydrates, not only because of their simple assimilation, but for the reason that they are better tolerated during pregnancy and exert an important protective action against toxemias.

Shohl states that while minerals furnish no energy, much of their importance is due to their concentration, which influences water metabolism through their influence on osmotic pressure. He also believes that during pregnancy minerals must be retained, since the mother must supply to the fetus during the last hundred days of pregnancy salts amounting to 1 gram of ash daily aside from the needs of the placenta and uterus.

MacLeod feels that carbohydrates are very essential. He thinks it likely that the only carbohydrate required by the tissues is glucose. The readiness with which a carbohydrate is converted into glucose is the basis of its value. Carbohydrate is the most quickly available food for the animal body. All digestible carbohydrate taken with food is converted by digestion into glucose and levulose, both of which are absorbed into the liver circulation. More sugar can be tolerated if other foodstuffs are absorbed at the same time.

In a personal communication Titus emphasizes the fact that the normal pregnant woman should not be looked upon in any sense as a diabetic, as an excess of blood sugar will stimulate the increased secretion of insulin which quickly utilizes the excess intake. The temporary "spill" which may be easily detected in the urine is of no particular significance. This viewpoint has been verified in innumerable instances by Dieckmann and co-workers. Ordinarily about 0.8 to 1 gram of sugar per kilogram of body weight per hour can be tolerated. During digestion and assimilation protein is split into amino acids and absorbed as such, there being some eighteen different amino acids, not all of which are contained in any one protein. It is essential, therefore, that many different proteins comprise the diet.

Macomber in a contribution recently published in the JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION states that animal proteins are far superior to those of vegetable origin. MacLeod believes that from 50 to 60 grams (about one-half our daily protein intake) of animal protein form a safe ration. When part of the protein ration is of vegetable origin more is required to compensate for the deficiency in certain amino acids not sufficiently present in vegetable proteins. The protein requirement

depends upon, (1) the nature of the protein; (2) the number of non-protein calories; (3) the degree of tissue activity. Too much protein may be harmful by overtaxing the kidneys in eliminating the unused amino acids. The constant presence of these bodies in excess in the blood will cause degeneration and sluggish metabolism, and excess protein in the intestine will lead to poisonous decomposition products, the subsequent absorption of which into the blood will cause toxic symptoms.

The normal pregnant woman should have a well balanced diet obtained from as many different sources as is practical in order to secure an abundance of the elements necessary for health and growth. The individual whose weight is approximately 135 pounds requires a diet of perhaps 300 or more grams of carbohydrate, 100 grams of protein, and 75 to 100 grams of fat, with their contained inorganic salts and vitamins, the total caloric intake being perhaps 35 to 50 per cent more than in the non-pregnant state. The addition of 1500 to 2000 cc. of water daily should be included.

E. Fleming, in an unpublished article on "Diet during Normal Pregnancy," states that in a normal person the ketogenic-antiketogenic ratio is usually 1.5 to 1, and in calculating this ratio in pregnancy, attention must be paid to the increase in metabolic rate during the latter half of gestation. J. Baer has shown very variable basal rates during pregnancy. Among fifty-two patients from the thirty-fourth to the fortieth week, Baer found a basal rate varying from 26 plus to as high as 35 plus, which coincides with my individual experience.

The carbohydrates should consist chiefly of whole, unrefined cereals, fruit of all kinds, raw or cooked; citrus fruit, 200 cc. daily, for vitamins B and C; apple, pear, peach or plum about 200 grams daily; raw vegetables such as lettuce, cabbage and onions, and cooked vegetables about 300 grams, preferably of the green and leafy varieties. These furnish bulk as well as vitamins B and E. The proteins should consist of stewed, roast or broiled beef, mutton, game, liver and fish, preferably salt-water fish because of their high iodine content; eggs; one quart of milk (as such, or used in cooked dishes), or 30 to 50 grams of cheese if patient objects to taking milk. Fat, in the form of butter and cream, may be taken as such or used in the ordinary preparation of food. Where there is any question of vitamin B deficiency, one or two cakes of yeast daily is prescribed. Only iodized salt should be used on the table and in the preparation of food. Fats, although invariably present in practically every diet, are debatable as essential to health; much of their value is due to their vitamin content. Carbohydrate is stored in the liver as glycogen, which

maintains a fairly even and uniform rate of passage into the circulation of the liver, being slow ordinarily, though rapid during exercise, infections and pregnancy.

The salts of calcium, phosphorus, iodine and iron are important essentials. Calcium and phosphorus (best given in the form of milk) are necessary to form bones, and where there is any great deficiency of these two salts in the pregnant woman, premature births or weak or dead young may result. Calcium is also valuable because of its influence on the permeability of the blood vessels, coagulation of the blood, and the resistance to certain toxins. Macomber feels that it is impossible for a woman to get enough calcium at the time of a particular need, as in growth, pregnancy and lactation, without milk or milk products, such as cheese.

An insufficient amount of iron results in low fertility, and interference with the intrauterine life of the child may be due to the resultant anemia from the low iron content which fails to supply sufficient oxygen to the tissues. Our best source of iron is liver, then red meat, egg-yolk, oatmeal, and certain vegetables, particularly spinach.

Iodine is necessary during pregnancy because the thyroid activity indicates the importance of an ample supply in the diet. Hypertrophy of this gland results frequently where the diet contains insufficient iodine. Low fertility as well as certain toxemias of pregnancy may be due to hypothyroidism or an inadequate supply of iodine. This mineral is contained in drinking water and vegetables grown in regions near sea water. If far removed from the sea, very little iodine is present in the water. Sea-food, fresh or canned, is our best source of iodine in the diet.

The term vitamin is applied to unknown substances present in more or less minute quantities in certain foods, and essential to health and growth. The fat soluble vitamin A, related to growth, is present in certain animal fats and green leaves. Among the foods containing this substance are such fats and oils as butter, cream, fishoils, liver, egg, wheat germ, and certain green vegetables such as fresh cabbage and lettuce. It is present in green leaves and deficient in most root vegetables. Macomber states that this vitamin is necessary for intrauterine growth just as much as it is for the newborn animal, and that stillbirths or absorption of the fetus will occur on diets which are deficient in this regard.

Water soluble vitamin B, or antineuritic vitamin, is present in liver, eggs, wheat germ, peas, beans, nuts, abundantly in yeast, and also in green leafy vegetables.

Antiscorbutic vitamin C is present abundantly in fresh citrus fruits, fresh cabbage, tomato juice, germinated cereals, raspberries, apples, etc.

Antirachitic, or fat soluble vitamin D, is necessary for the proper utilization of calcium and phosphorus. During intrauterine life of the fetus it is supplied by the mother through a diet containing egg-yolk, certain leafy vegetables, and to a lesser extent butter. It may also be supplied by means of the ultraviolet ray and codliver oil.

A new factor, designated as vitamin X by Evans and Bishop, and vitamin E by Sure, which is present in lettuce leaves, cheek muscle of cow, cereals, egg-yolk and beef liver, is considered by the above mentioned investigators as essential to reproduction. Vitamin E is fat soluble; if absent or low in the diet, pregnancy may occur but the developing fetus may undergo absorption. Vitamin E is not present in codliver oil.

Sure, in a recent publication, emphasizes the need of supplying ample quantities of vitamin B to the nursing mother, his work on rats indicating an increase of about three and one-half to four times the daily quantity supplied to the lactating rat over the non-pregnant requirement. He found that the nursing young rats in his experiments were unable to store any appreciable amount of vitamin B, and had to be given certain dosages of this substance daily, depending on the age, or death usually resulted. Postmortem examination disclosed the young dying with their stomachs, full of curd, and with hemorrhages particularly of the cranial bones. This view follows the publication of two articles of research at the University of Oregon Medical School by Manville, Brodie and Moore, and by Moore and Brodie, who were able to produce experimentally in animals brain hemorrhages, and at times visceral hemorrhages, in 85 per cent of their cases, by feeding the mother a diet deficient in vitamin B. They feel that about four times as much vitamin B should be fed the mother during pregnancy as is usually necessary during the non-pregnant state.

Kennedy and Dutscher reported that the presence of vitamin A and B in cow's milk is entirely dependent upon their occurrence in the animals' diet; and their effect is due to the stimulation of metabolic processes which promote growth rather than stimulation of the appetite.

Macomber feels that many of the failures of development and low fertility, observed so frequently in adult life as a cause for sterility, are produced by poor diet during puberty. When the individual is undergoing such a period of severe strain, dietetic deficiencies at this time may produce most serious effects on later functions. Modern methods in our schools are by no means blameless in adding to this strain by means of home work, unapproachable teachers, etc., who often attempt to

make the entire class conform more or less to the standard set by the brightest pupils.

In view of the effect of cooking on certain vitamins, cooked and uncooked food should be eaten. Another factor to be considered is the presence of such fats as lard, olive or cotton-seed oil, and even mineral oil, which may render the vitamins incapable of assimilation, as shown by Dutscher and co-workers. A bulky diet containing an abundance of fruit, leafy or green vegetables, is valuable, not alone because of the food elements it contains, but also to correct constipation which is frequently present.

My personal preference during normal pregnancy is not to limit the diet in any way, but rather to avoid excessive over-weight by encouraging exercise, preferably open-air walking to the point of a healthy fatigue each day. The majority of babies overweight at birth are born of mothers who have taken comparatively little active exercise; the children are often postmature.

In view of the considerable number of instances where diet and maternal weight exert little if any influence upon the size of the child at birth, it would seem that there is some inherent factor present in the mother which exerts considerable influence upon the baby's weight at birth. Repeated personal observations have shown that certain mothers give birth to several children of practically the same weight, irrespective of maternal gain during pregnancy.

Exercise during pregnancy requires a greater expenditure of energy, hence it is felt that during pregnancy a greater caloric intake is advisable, depending upon the particular individual; this may be as high as 50 per cent more than in the non-pregnant state. Many present-day women are underweight at the onset of pregnancy, with no reserve glycogen stores available for fetal needs. So-called morning sickness, or nausea and vomiting, occurs during the early months of pregnancy in perhaps two-thirds of all cases to some extent. Loss of appetite, failure to eat adequately, plus exertion of any kind, aggravates this troublesome condition. It is difficult to control nausea and vomiting quickly unless the pregnant woman gains weight. This gain is due to both excess feeding and replacement of fluids needed. The failure to check vomiting may produce changes incidental to starvation and dehydration varying from moderate discomfort to a degree very dangerous to life. This condition is a feeding problem requiring forced feeding of a diet high in carbohydrates, 400 to 500 grams daily of those which are most readily available; moderate proteins, 50 grams, and low fat—none being added to the food.

Bedrest and absolute quiet should be resorted to in order to conserve both physical and mental energy. Forced fluids should be used to overcome dehydration; this should be limited as food intake increases, since solids are retained more readily than liquids. Food should be given every two hours during the day and once or twice during the night, as small quantities are more readily tolerated, this will usually suffice to stop nausea and vomiting, after which regular diet is gradually resumed.

We feel that all vomiting of pregnancy is one and the same thing, differing only in degree. Severe cases may require the administration of fluids under the skin and perhaps feeding through the Andrews nasal tube of 5 or 10 per cent Karo water, gruel, milk drinks, Dryco, etc. The loss of hydrochloric acid may require replacement. The rapid and immediate response to intravenous injections of sufficient glucose brings about such rapid improvement that this condition no longer is a source of grave concern. By sufficient glucose, I mean the daily administration of 2000 to 3000 cc. of 10 to 20 per cent glucose intravenously, and a similar amount of saline solution under the skin to overcome dehydration. The main thing is to conserve energy and force a high carbohydrate diet and fluids during the first stage of lost appetite, before nausea and vomiting appear.

In eclampsia (convulsions) while unconscious, food is administered as intravenous glucose for diuresis and its curative effect on liver lesions. Nothing is fed the patient until she is conscious and able to swallow; then a carbohydrate diet in small amounts, frequently repeated, with forced fluids and elimination, usually completes this phase of the treatment. Carbohydrates have a very beneficial effect upon this, as in all toxemias of pregnancy.

Probably the most satisfactory diet for the nephritis of pregnancy is a normal one sufficient in amount (carbohydrate 300 grams, protein 50 to 75 grams, fat 75 grams and low in salt and condiments) for the patient's needs, and enforced rest, both mental and physical. The loss of body protein in the form of albumin in the urine requires replacement. Tuberculosis and pregnancy can be treated simultaneously with very good results; the enforced rest and dietetic regime suitable for tuberculosis seems aided by the improved metabolism of pregnancy, although the tuberculous woman should not nurse her baby for fear of communicating the disease.

The overweight patient is frequently water-logged and carries an excess of fluids. Again we limit fats, restrict proteins, and feed somewhat

smaller quantities of carbohydrates while searching for a possible underlying cause. If no cause such as an underlying toxemia, nephritis, etc., can be found, restricted condiments, increased elimination and increased exercise are advisable. Should an underlying cause be discovered, treatment is directed toward this. The overweight patient who is not oedematous, but simply obese, requires restricted carbohydrates and fats with regular protein intake; ample mineral salts and vitamins should be provided.

Exercise, preferably walking two hours in the open air daily, is considered not only for its physical benefit which is an important factor in softening the lower uterine segment and thus influencing undue prolongation of pregnancy with excessive growth of the child, it is also valuable because of the exposure to the ultraviolet rays of sunlight, which are best transmitted through white garments.

A fallacious belief exists that the weight of the baby at birth can be controlled by diet. The Prochownik diet which is poor in carbohydrate and fluids has proved impractical and unsatisfactory, since the child is a parasite living at the expense of the mother. Starvation of the mother exerts no effect upon fetal growth unless carried to such an extent as to impair infant vitality. A well balanced diet in the mother will not materially affect the weight of the child at birth, and if the diet is curtailed too much the deficiency in certain elements such as vitamins, salts, etc., may be sufficient to endanger its life.

We have found it much more satisfactory to feed well the normal, pregnant woman and insist upon plenty of walking out-of-doors to control weight within the limit of comfort, though a marked gain in weight, per se, is no cause for alarm in the pregnant woman who presents no other evidence of abnormality.

A question that is somewhat allied with pregnancy is the question of sterility or inability to conceive, but which is more often a case of lowered fertility. In this connection dietary deficiencies play an important part. The work of McCollum, Osborne, Mendel, and others, has shown that diets deficient in calcium, a sufficient amount and variety of proteins, and vitamins, have resulted in lowered fertility. Reynolds and Macomber feel that their experimental work in the causation of sterility in rats shows that dietary deficiencies which are too slight to cause any apparent ill health or even marked loss of condition, nevertheless result in great infertility. The greater the dietary deficiency, the larger the proportion of sterility.

The more recently mentioned vitamin E, which is found in lettuce leaves, fresh or dried, cheek muscle of cow, cereals, egg-yolk, or beef liver, is by these investigators considered essential to reproduction. In 102 cases of sterility among private patients treated by Dr. Krebs, my associate, and myself, we found seventeen instances in which this dietary factor played a part; the correction of this dietary deficiency resulted in eight patients becoming pregnant. The remaining nine who failed to conceive had local abnormalities in addition to dietetic deficiency.

The results of recent investigations herein quoted indicate that the importance of diet in pregnancy is only beginning to be appreciated.

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THE HOSPITAL DIETARY DEPARTMENT[1]

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Ten years ago the American Dietetic Association began. Only a few milestones mark the progress of the Association and the work of the Administration Section. As we think back over the years of work of this section, we see much of accomplishment. In 1923, an excellent survey was made of the status of the dietitian's work. In 1924, a survey was made of the organization and maintenance of the hospital dietary department. In 1925 the committee reported on the department budget and last year (1926) the committee continued the work on the food budget and contributed a food distribution ledger sheet and gave a report of its use.

What should be the contribution for 1927? Suggestions were brought before the Committee. Many were heartily in favor of continuing study on the food budget, putting the ledger sheet to the test in the hospital. Other suggestions were presented for consideration. For the younger dietitian, it was felt that information could be compiled on types of equipment and materials which have proved satisfactory. There seems to be an opportunity for service to the hospital in a study of food buying. The personnel budget was the most popular subject suggested, as a problem of vital interest to dietitians especially in view of the number of new hospitals and the rebuilding that is being done. This would make available statistics to present to the hospital administration to prove the need of adequate personnel to conform with the general plan of expansion.

The majority seemed to feel the need of a study of the personnel of the hospital dietary department and this prompted the committee to join with the American Hospital Association in their proposed study on "The Hospital Dietary Department." The plan seemed an opportunity and it was accepted as the year's work.

The basis for this report on "The Hospital Dietary Department"

[1] Presented before the Section on Administration of the American Dietetic Association, St. Louis, October 17, 1927. Copies of the above report with complete tables showing results of study may be obtained on application to the Business Office of the Association. Price, 15 cents.

is furnished by 175 hospitals about equally distributed throughout the United States; the returns from Canada were from the east and west. For convenience and a better classification of the report, the hospitals were divided into five groups according to the bed capacity, about 35 hospitals being represented in each group.

It was felt that the aim of this report would be most fully realized if a general summary could be tabulated for distribution to members of this association for criticism and comparison, and as a general reference in problems of organization and general administration, especially as assistance when building a new organization. Five hundred of these reports have been prepared for distribution. This work is not conclusive and therefore not a standard, but a summary of what is happening in 175 of probably our most progressive hospitals.

THE PERSONNEL

A well organized dietary department will have a competent director and the hospital will arrange a budget which will supply adequate personnel to carry on the work of the department. To some extent hospital superintendents are urging a better class of employees and are furnishing a budget comparable with the plan. They feel the destruction to building and equipment is less and the general efficiency and moral of the hospital is improved.

In the hospitals under 100 beds reporting, we find only one is without a dietitian. The lowest salary reported for the chief dietitian is $85 and the highest $135. One-half of the dietitians receive $100 a month. The majority have 1 month's vacation, however, 8 out of 31 reporting have 2 weeks. Two of these hospitals in group I representing the hospitals under 100 beds employ assistant dietitians. In group II, hospitals from 100 to 125 beds, the chief dietitian receives from $65 to $165 per month. One hundred twenty-five dollars is the salary most frequently repeated. One-half of these hospitals have from 1 to 3 assistant dietitians. Their salary range is from $50 to $100 a month. In the third group of hospitals, 125 to 200 bed capacity, the salary ranges from $100 to $150 for the chief dietitian, the majority receiving $100. Two out of 32 reporting have no vacation, 12 have 2 weeks and 18 have 1 month. The vacation of the assistant dietitian is about equally divided between 2 weeks and 1 month.

In our larger hospitals, group IV with a bed capacity of 200 to 300, the salary range is from $100 to $350 for the chief dietitian. Twenty-four

have 1 month's vacation and 7 have 2 weeks. Ten of these hospitals have no assistant dietitian, and in hospitals employing them, the number of assistants varies from 1 to 5 with salary ranging from $50 to $125 and they are allowed one month's vacation. In the group of hospitals of 300 beds and over, we find that two have no dietitian. The salary range is from $100 to $200 and the vacation is one month. The majority of dietitians live within the institution.

Many of the smaller hospitals do not employ chefs. The average salary is as follows:

Group I, $93; group II, $116; group III, $140; group IV, $138; and group V, $143 which is about the same as the average salary received by the chief dietitian. Except in group I, the majority of hospitals have their chefs living out. Only four hospitals of all reporting give their chef a month's vacation and two weeks seems to be standard. There seems to be little consistency as to the number of cooks and bakers. The range for all hospitals is from 1 to 10, the salary is from $30 to $165 with an average for group I, $74; group II, $70; group III, $69; group IV, $74; group V, $86. About as many live in as out, and the annual vacation is 2 weeks. The number of dishwashers for all groups ranges from 1 to 12. The salary is from $28 to $100 with an average of $47, the annual vacation is 2 weeks. Kitchen helpers are listed as from 1 to 46 in number, with an average salary of $43, the vacation is 2 weeks. The waitresses vary in number considerably, depending no doubt upon the amount of cafeteria service, the numbers ranging from 1 to 31. The average salary is $43 and the vacation 2 weeks.

Employment is generally understood to be one of the most difficult problems of the dietitian due to low wages with no scale of advancement and poor conditions of feeding and housing. Would not the hospital attract a better class of employees if wages were more standardized and an allowance be added to the wage to take care of this burden of feeding which the hospital assumes but carries out with little thought? Many arguments could be cited for outside feeding and housing. The food waste, which has often been studied, has been found to be as much as the food consumed. The number of complaints would be less and there would be fewer dissatisfied employees. A hospital that has tried this plan of letting the employee select and buy his food and be privileged, we might say, to buy food in the hospital at a reasonable cost, and have it served in attractive and dignified surroundings without the stigma of "The Help's dining hall," has gradually seen the class of employees

change to a better type. Class distinction is not felt. They enjoy spending their own money and needless to say the waste is negligible.

In our study of the number of employees hired per year, we find the turnover is appalling. All hospitals except group II show a report equal to a complete turnover twice a year. One hospital with 15 employees stated that 140 had been hired during the year.

In a report on health examination and its enforcement, we find hospitals about equally divided for and against this requirement; 5 hospitals where it is a requirement find it difficult or impossible to enforce. The health examination would more than repay the hospital in the detection of the unfit and undesirables who might in a short time need hospitalization and are a decided expense to the institution. Should health examinations not be made routine; what can dietitians do to aid in its enforcement?

THE DIETITIAN: EDUCATION, PROFESSIONAL EXPERIENCE AND INTEREST

It is to be expected that a well organized dietary service will have a competent director. To quote a hospital administrator, "It is natural that we would expect her to have a liberal background of education, to be a graduate of a recognized school of dietetics, with special preparation and experience in hospital dietetics along administrative and executive lines." He goes on to state, "The incumbent must have a pleasing personality, be adaptable, exercise diplomacy, be tactful and coöperative, imbued with the spirit of service, have an anticipating mind, one that has vision beyond present day conditions in order to initiate, develop and advance."

In 151 hospitals reporting on the chief dietitian's education we find 7 have an M.A degree, 68 a B.S. degree, some with and some without student dietitian training, 72 have three years and under, 2 are registered nurses and 2 report no special training. The professional experience is from 1 to 25 years and the average for all reporting is 6 years. Reports show that there is a lively interest in professional organizations and there is excellent membership in the local as well as the national dietetic association. The standards as set for the assistant dietitian seem to be a B.S. degree and 6 months' hospital experience. One hundred and thirteen hospitals give time off for professional meetings, however 28 do not. Twenty-two report that the salary of the chief dietitian is not increased with service. The 112 who reported salary increases gave as a basis for increase, ability, service and efficiency. The length of service of the

present dietitian averages from 2½ to 3½ years and her predecessors, 1¾ to 3; 1⅓ to 3; 1½ to 3 years, respectively.

DUTIES OF THE DIETITIAN

The Hospital Standardization report as of October 1, 1927 divides the duties of the dietitian into three groups, namely: Administrative, Scientific and Teaching. It states further that her status must be well established, with clear cut understanding in regard to her duties and relations, that her services are absolutely essential and no hospital can get along properly without her from the standpoints of economy and efficiency. Is the dietitian given full authority in the exercise of these duties? What is her status today?

The dietitian works from 6 to 12 hours a day, the average is 8½ hours, with most dietitians working an 8 hour day. She has from ½ to 2½ days off a week and by far the most dietitians have 1 day off a week. All but 16 dietitians have entire supervision of their departments, the exceptions are food on the wards and in the nurses' and employees' dining rooms. Two stated they did not have authority over the chef. One hundred and one reported as buying the food, 4 reported as doing part of the buying such as perishables and 52 reported as not doing the buying. Regarding equipment buying there is quite a different situation, 40 buy equipment, 19 partly and 94 do not buy their equipment. All but 5 state their requisitions are purchased as specified. Twenty-four do not have complete control of hiring their employees, and 22 do not as yet have authority for discharging. Exceptions show that this is done by the steward, chef, housekeeper or with the approval of the superintendent or assistant superintendent.

There is a great variation in hospitals as to the persons served. In group I, 106 persons are served daily, 37 of whom are patients and 4 of these on calculated diets. Group II, 173 persons are served on an average daily, 76 are patients and 11 of these are on calculated diets. Group III, 223 persons are served, of whom 99 are patients and 9 of these are on calculated diets. Group IV, 404 persons are served, of whom 178 are patients and 17 are on calculated diets. Group V, 755 persons are served, of whom 359 are patients and 33 are on calculated diets. There is an attempt, especially in the smaller hospitals, to consult the patients' likes and dislikes, especially those on the special diet régime.

The dietitian performs an important function in teaching, as our report shows that the dietitian devotes one-fourth of her time to this activity.

By some, teaching is considered the most important duty of the dietitian. The dietitian has an important function to perform in relation to the teaching of the student nurse, herein many dietitians are just beginning to realize their great opportunity. Nurses should be trained to be of the greatest service to physicians and surgeons. The dietitian should arouse the interest of the student nurse in dietetics and then give her responsibility and experience over a sufficient period of time so that she may reap worthwhile and lasting benefits.

The work of teaching the patient is being left more and more by physicians to the dietitian. This is being done especially for the diabetic patient in class instruction, and is being supplemented by individual instruction. Educational service should be extended to the out-patient department, as the advantage of field work is well known in many of our hospitals. Patients are more and more being taught the necessity of taking the well balanced diet as prepared by the hospital; years of bad food habits are being combatted through instruction. Doctors and medical students are asking for instruction in dietetics, and special courses are being instituted at summer school for physicians; nearly all medical schools have a definite course in diet therapy in the curriculum. This also includes, in some universities, courses in infant feeding with demonstrations and practical experience in the making of baby formulae and the preparation of special foods by medical students.

Our report shows that the majority of dietitians attempt to do some educational work with hospital patients and 12 report doing field work among out-patients. Only 4 reported not carrying on educational work for student nurses. Sixty-five out of 77 reporting, carry on educational work for student dietitians. Thirty-seven out of 63 reporting, carry on educational work for hospital internes. From 1 to 91 per cent of the dietary time is reported as being given over to educational work with an average of 24 per cent.

The Section on Education of the American Dietetic Association has prepared an excellent outline for a course for student dietitians. This response from hospitals shows the need of standards in hospitals for student dietitian courses. Of 53 reporting, 24 require B.S. degree, 14 require that applicant be a Home Economics graduate, 1 requires 3 year course and 14 require 2 years only. Age requirement ranges from 18 to 35 years. Three hospitals state that applicant must be under 30. The course is from 2 to 9 months in length. Two give 2 months, 11 give 3 months, 10 give 4 months, 38 give 6 months, and 2 give 9 months. The

conference hours vary from none to 12 hours weekly. The majority of the student dietitians receive maintenance, four report board and laundry only and some in addition to maintenance allow from $10 to $40 a month.

The chief dietitian is responsible to the superintendent in practically all cases, however in 5 hospitals, we have the dietitian responsible jointly to the superintendent and director of nursing, and in one, to the superintendent and president of the board. It is agreed, I believe, that the responsibility of the hospital dietitian should be undivided and complete.

LAY-OUT AND EFFICIENCY METHODS

Hospital superintendents are realizing the assistance given by dietitians in the more efficient planning of food departments. Architects are consulting dietitians for advice on kitchen layouts and equipment. The dietitian can give considerable assistance in the arrangement and type of equipment as she understands food routing and is familiar with the hospital's particular need. She can give valuable assistance as she visualizes the unit in operation. It is interesting to note that many hospital superintendents are giving over blueprints to the dietitian and asking her to check them with the architect. It is gratifying to learn through this report that *all but 5 dietitians have their requisitions purchased as specified.*

Our study shows, of 109 hospitals reporting, that 8 dietitians are without offices. Fourteen are without cooking laboratories. The report shows a considerable variation in size of diet kitchens and main kitchens. The food storage ranges from 400 square feet to 1314 square feet in size. The refrigeration is ice, brine, electric, or CO_2. Hospitals under 100 beds are using ice to the greatest extent. All other hospitals show a decided use of brine.

Ward pantries range in number from 1 to 33 with an average of 6. There are from 1 to 60 wards reported, with an average of 7 wards per hospital. An average of 25 patients are served from each pantry.

In hospitals up to 200 beds, we find the service is about equally divided between central service and food service from ward pantries. In hospitals over 200 beds we find twice as many are using ward pantries instead of central service. Steam, electric and insulated carts are in use.

Food service has had much discussion among hospital administrators. This report yields interesting data regarding waitress and cafeteria

service. One hundred thirty-four hospitals reported on this subject. Cafeterias are in use in 12 hospitals for the staff, in 48 hospitals for the nurses and in 81 hospitals for the employees.

ADMINISTRATIVE EFFICIENCY

Many good points were made for increasing administrative efficiency such as conferences, staff meetings, coöperation between heads of departments, supervision, daily reports, bulletins, instruction and demonstrations, inspection, dietary committee meetings, committees on food and sanitation and visiting other institutions. Ninety-six of 150 hospitals reporting stated that interdepartmental discussions were held.

THE DIETARY BUDGET

The dietary budget is obtained from a study of the expenditures for the previous years. If the institution has a good accounting system, this information on expenditures is available. The general administration and the maintenance departments which are considered as non-earning units will be apportioned over the other departments. This may mean an increase of about 5 per cent in the dietary department budget.

Salaries, wages, food and equipment should be budgeted separately. In order that the budget will be of practical value, at the end of each month the dietitian should be supplied with a record of expenditures which should be balanced against the budget. The budget gives the dietitian authority to carry out her aims and policies without interference, and results in happier relations with the business as well as other departments.

DIETARY DEPARTMENT BUDGET

This shows that salaries and wages represent from 17 to 24 per cent of dietary costs. The food is from 65 to 74 per cent of the dietary costs, miscellaneous department costs are 3.5 to 4 per cent of the total. The total dietary costs are 26 to 28 per cent of the hospital operating costs.

As another year approaches we look back on the contributions of the Administration Section for the past five years. One is struck by the unity of aim and purpose, which has been to arrive at standardization of the hospital dietary department. Another year should not this ultimate goal take form in a constructive way? Our Section on Education has constructed a splendid outline of a course for student dietitians—an ex-

cellent piece of work. The Section on Administration should be a dynamic force in the standardization of the Hospital Dietary Department.

We should render a great service to the younger dietitian by having available the results of our accumulated experiences. Can we not also assist the hospital administration by suggesting ways and means of meeting the demand for trained administrative dietitians?

The Hospital Standardization movement caused a betterment in hospital conditions almost over night. It is receiving the support of allied organizations; the American Dietetic Association should show its interest and coöperation in this progressive development by contributing standards which will result in the better care of the patient through more standardized administration, diet therapy and teaching in Hospital Dietary departments throughout the country.

THE DIETITIAN AND THE OUT-PATIENT[1]

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It is my purpose today to speak to you, not from the viewpoint of the dietitian, but rather from that of the physician or clinician, to give you something of the medical aspect of our mutual problems. Again, it is my purpose to visualize not only what has already been done by the dietitian in the Out-Patient Department of a hospital, but to formulate what we may consider as our ideal, the goal for which we are to strive.

For three years we have had a trained dietitian associated with the Washington University Dispensary to coöperate with the medical (including diabetic) and pediatric clinics and under the general supervision of the social service department. The development of this department has been our one aim, and while we have not nearly approached the perfection already attained by some other clinics, notably the Food Clinic of the Boston Dispensary, we have seen enough of the value of the work to wish to carry it through to full fruition. The doctor has seen the great advantage of being able to have help in his dietetic problems, and not only ordinary help but the help of a specialist. The more advanced a science the more detailed and the more complicated it becomes, thereby rendering necessary the aid of a consultant. And the dietitian must be looked upon as a consultant, yea even more than that, for we look to her not only for suggestion and advice, but for the actual planning and carrying out of her recommendations. Often this carrying through of the plans is the most difficult part of the work, requiring all the skill and tact of the trained worker. It is necessary for the dietitian who works with the out-patient to be familiar with more than dietetic principles or even the practice of dietetics. Nor is it sufficient for her to know diet therapy in all its branches, for in addition she must be trained in social service, in the handling of patients, and in practical economics as well.

It was the practice in the past for the out-patient physician to give but scant attention to the diet therapy of disease, other than diabetes.

[1] Presented before the American Dietetic Association, St. Louis, October, 1927.

He might, if not too busy, tell the patient quickly that he was to avoid such and such foods, and to eat more of another variety, but only too often the patient was paying little or no attention to these directions and even if attentive was not understanding them. Furthermore the physician might not have realized, for example, that while giving the mother of a family directions for her individual diet, he was really prescribing foods that would require the entire food budget of the family, leaving nothing for the remaining members of the family if his directions were followed, which, of course, they were not. Here is where the dietititan steps in. She learns from the doctor what diet is necessary for the patient's welfare, but she adapts this necessity to the actual living conditions. She is familiar with the costs of food, she knows how to modify a general diet, which the whole family may use, so that it will be suitable for the individual that is being treated. And with her close affiliation with the social service department she knows when additional financial aid is necessary, and what is more important, she knows how to get it and sees that it is got. Furthermore the dietitian must familiarize herself with racial and religious habits and customs so that the prescribed diet may conform in general to those habits of the household. When a patient is confined to a hospital it is usually for a relatively short period and where a diet is prescribed it need not conform to the usual diet customs of the individual, nor need it be modified to accord with the needs of other members of the family. In the out-patient department, on the other hand, diet therapy is usually necessary for prolonged periods; the patient cannot be considered alone, but as a part of a family group, and the diet must be so adjusted that it will cause neither an undue amount of extra work, nor add greatly to the expense of the food, for with the out-patient the economic strain is always great.

Let me cite a few examples of some of the failures which the out-patient physician encounters, failures which the out-patient dietitian remedies. A man with a vague gastro-intestinal condition, for which a simple bland diet is prescribed during the period of study, is given a printed list by the physician in charge and told to follow that diet. He accepts the list and is dismissed by the physician until the next visit. It is then learned that he did not follow the diet because he could not read, but was ashamed to tell the doctor. If such a case had been referred to the dietitian she would have learned that the patient could not read and would have given him careful verbal instruction, repeated frequently enough so he could understand. Another case—a woman with an active

duodenal ulcer is told that she must drink a mixture of water and cream, or milk and cream five times daily with four to six eggs a day. She understands the directions perfectly and intends to carry them out but finds by the middle of the week that the extra money provided by one of the charitable agencies is exhausted and she goes back to the regular family diet. The dietitian would have inquired into the economic status of the patient and could have anticipated this condition, for with her intimate contact with the social service department she could have made adequate provision for proper food or funds. Again, the physician is attempting to reduce an obese individual, and has given the patient general instructions with a list of fat-forming and non-fat-forming foods and the patient states that she has omitted the forbidden foods from her diet but she does not lose. The dietitian places her upon a specific regime of low caloric value and when the patient returns again and has not lost any weight (endocrine disturbances having been previously ruled out) she knows there has been a lapse somewhere and upon close questioning learns that the patient had been drinking considerable "home-brew" which she did not look upon as contraindicated. Those are but a few of the daily experiences which we meet.

What are the special conditions with which we deal in the out-patient clinic that may be benefited by the services of a dietitian? To answer that question is to list every disease in which dietary advice is indicated. But it might be well to list some of the more common and to say a few words in explanation of some of them. First in the list is, of course, diabetes, but the dietitian's place in the treatment of diabetes has been stressed so often that I shall content myself with merely placing it at the head of my list. Next, perhaps, we should mention the various gastro-intestinal disorders of which duodenal or gastric ulcer is probably the most important. Here we have the problem of adapting the diet to the stage of the disease and to the individual—we cannot expect the man or woman in industry to be able to obtain the same food as the housewife, but with little suggestions here and there, as for instance the use of the thermos bottle for carrying the interval feedings, we can usually provide a satisfactory dietary regime. It is well to emphasize here that the dietitian should be guided always by the physician; she is not to attempt the treatment of disease except under such guidance, and the closer the association, the more successful the result. Other common gastro-intestinal disturbances requiring dietary regulation are the various types of constipation with and without accompanying disease. The cure of

constipation by diet and proper habit formation without the use of laxatives and cathartics has been one of the marked advances in medicine and the dietitian can continue to educate the out-patient public along these lines. Colitis, esophageal obstruction, gall-bladder disease, etc., all require a dietetic regime.

Another large field for the dietitian lies in the treatment of obesity, whether it be of the simple alimentary type or associated with endocrine disturbances. Here, as well as in malnutrition, whether it be secondary to such disease as tuberculosis or chronic cardiac disease, or whether it be what we might term primary, or due to faulty food habits, detailed instruction by the dietitian is essential. At this point might be men-

TABLE 1

Points considered by dietitian in prescribing clinic diets

I. *Nationality* (or religion)
- A. Dietary laws
- B. Typical foods
- C. Customs
  - a. Holidays
  - b. Special food days

II. *Financial situation*
- A. Number earning
- B. Total income
- C. Possibility of sufficient food
- D. Connection with agency

III. *Environment*
- A. Kind of family
- B. Occupation
- C. District in which family lives
- D. Possibility of coöperation
  - a. Mentality
  - b. Education
  - c. Understandability (language).

tioned the great value of nutrition instruction for children as directed by the out-patient dietitian. The child of today is the adult of tomorrow, and the teaching of rational food habits to the child will be doubly valuable when that child becomes in turn the parent and teacher of future generations.

Two relatively new fields that have been opened to the dietitian are those of the diet therapy of anemia and of asthma or other food allergies. Since Minot's use of the liver diet in anemia has become so popular there have been devised many ways of preparing liver so that it may be taken indefinitely and in adequate quantity without becoming tiresome.

The average out-patient physician has neither the inclination, knowledge, nor time to spend with the patient explaining the preparation of various liver recipes, but the dietitian welcomes such opportunity. Likewise, with a patient who has been found sensitive to wheat and eggs, for example, it is not enough merely to state that such articles should be avoided but the dietitian must teach the patient (especially if he be a man, and often not less frequently the "modern" woman) the various food products and mixtures in which such substances may occur as well as the substitutes that may be used.

The cardiac who may be overweight or underweight or may require a "dry" diet is best advised by the dietitian, but here again the closest coöperation with the clinician is essential. The diet in nephritis or hypertension is a potent field for the dietitian, for this type of patient abounds in the out-patient clinics, as does the arthritic, and if you are one who believes in the efficacy of diet in arthritis your field is limitless.

The deficiency diseases, scorbutus, pellagra, rickets, etc., all require a careful dietetic regime for prevention and cure.

Naturally all these varying conditions require independent consideration by the dietitian but it might be well to mention the factors other than disease that the dietitian must use in making out clinic diets. They may best be listed as in table 1, though in so doing no attempt is made to place them in the order of their importance. From this list may be seen how broad must be the knowledge of the out-patient dietitian. Her contact with life is so close and of such interest that it seems her position should be most enviable and in great demand among dietitians. Perhaps the difficulties deter some. The position of out-patient dietitian is truly a selective position, the incumbent of which must possess personality, force, and tact as well as an adequate training in dietetics and home economics.

The ideal toward which we are working is the establishment of the Food Clinic as an integral part of the out-patient department. The food clinic should serve the same functions as every other clinic, that is, to expertly care for the problems in its own field, to receive all patients from other clinics that require dietetic advice working with the referring clinic in carrying out their recommendation. To serve independently in the education of the out-patient along the lines of rational diet, through lectures, food exhibits and the like, as has already been done in childrens' nutritional classes. This is the ideal—it can be attained if there is a sustained interest on the part of those most vitally concerned, the dietitian, the social service worker, and the physician.

EQUIPMENT FOR INSTITUTION FOOD DEPARTMENTS[1]

OWEN T. WEBBER

Webber and Wells, Inc., Hotel and Institution Equipment Engineers, Chicago, Illinois

This is a period of advancement in hospital construction throughout the country. Hospital facilities have not always been abreast of the times nor adequate to cope with the demands levied. In our hotel system, it is reasonable to state that the five years passed have witnessed a complete rebuilding and we have gone far in our methods of planning and operating in that field. The next few years will see many changes and improvements carried out in all departments of hospital work.

Your organization is primarily interested in food as it is prepared and reaches the patient. You are aware that often the nutrition department of a hospital is operated in a rather costly and unbalanced manner. This is largely due to the fact that existing institutions have increased their bed capacity as occasion demanded. The original food operative scheme, while possibly good when first introduced, does not adapt itself to later demands. For large institutions which are now being conceived and erected in their entirety, there is absolutely no excuse for faulty administration and inadequate food service to the patient. It is not possible to go deeply into the subject of food equipment in the space of one hour, so I shall confine myself to the main points which I believe will be helpful to you.

In planning a food department in a new hospital the dietitian should start with the food at the point of entrance, which is the receiving department in the rear of the building, and map out its progress from that point. Traffic of food service is very similar to flowing water; a river free from twists and turns will travel faster and with less treacherous current than one which wanders all over the countryside. Food should be routed in a forward direction to avoid retracing of steps and cross currents.

We will presume a case in point, a dietitian has been engaged by the committee in charge of a hospital to be constructed. How much author-

[1] Presented before the American Dietetic Association, St. Louis, October 18, 1927.

ity has been invested in the dietitian and what must she do? The first step is to size up the situation by investigating the proposed bed capacity and the type of institution as to whether it caters largely to private patients, or semi-charity ward patients. Is it spread out over a proportionately large base or is it of the stack type, towering high on a comparatively small ground floor area? Is it under State, City, Federal or Private administration? Is there a reasonable operative budget? What will be the proportion of personnel of various types? Just how far away are the sources of supply of truck gardening, meat, etc.? What is the local help condition? These and many other points must be taken into consideration.

The dietitian should work with the architect during the time that the building plans are being drawn up as she will materially aid him and save herself much disappointment. Her viewpoint has a practical foundation which the architect will interpret in terms of construction. While plans are being drawn pipe shafts and radiators can easily be moved to accommodate the desired arrangement of the kitchen equipment. If the layout is planned in the space allotted, regardless of these pipe shafts and other obstructions, it is often found on consultation with the architect and his mechanical engineer that they can help considerably in placing such necessities where they are least harmful to the kitchen plan. After the building is constructed it is too late.

Every department of the hospital wishes special consideration in the matter of the provision of adequate space. This usually results in the kitchen being fitted into what is left. Unless the dietitian asserts herself, she will finish with nothing but a patchwork quilt. An architect is in reality much the same as a referee. He must see that the architectural design does not sacrifice utility for appearance and that the mechanical design does not overun the building design in ensuring ideal conditions for ventilation, plumbing etc. The architect with his technical mind is able to visualize clearly and he is usually only too glad to obtain the viewpoint of a person experienced in the practical aspects of the food department.

Food in hospitals is now served under two distinct methods: Central tray service, and tray service from properly located diet kitchens. I believe that central service is operative in all institutions up to 300 beds but over that capacity it becomes unwieldy. With central service in some institutions subveyors are of importance. Mr. Oliver Olson has described an electrically controlled ascending and descending subveyor,

with station lights at each floor, and control switches from the main kitchen which would permit the individual trays going up to each floor in groups, rapidly and efficiently. They would be received in small rooms which would take the place of diet kitchens. The subveyor easily and smoothly carries the trays of food direct to all floors. When the meal is finished, the used dishes are picked up and automatically carried directly to the dishwashing machine. The advantages resulting from the use of subveyors have been merely indicated. They make for centralized food control with its economy of labor and material. They permit adequate supervision and are free from noise and dirt. It has been tried out with apparent success in a hospital of 120 bed capacity at La Crosse, Wisconsin.

The storeroom and main storage refrigerators should be located together under one control. There should be only one rear door to the building which means but one leaky spot to watch. The storeroom should not be cramped, but of convenient size, with daylight if possible.

The main storage refrigerators will be located in this unit. They should have all compartments, with the exception of the fish box, entering off a vestibule. This will prevent emptying the refrigerators of cold air each time they are used. Consider the effect on raw food supplies, on a hot day, if you have no vestibule and the refrigerator entry doors are opened directly into the storeroom, which might be at a temperature of 95 degrees, with the refrigerator at 32 degrees. Nothing can be kept in condition when subject to continual rapid change of temperature. Air at 32 degrees is much heavier than air at 95 degrees, and it flows rapidly out of the door. With vestibule control, the storeroom can be kept at 95 degrees, the vestibule around 60 degrees and the various compartments at about 35 degrees. One can enter the vestibule, close the door, and work between the various inter-communicating rooms, loading onto a truck located in the vestibule without materially lowering the temperature in any one compartment.

In line with this same thought it is well to install refrigerators in the main kitchen and main diet kitchen with numerous service doors, which are known as "half height reach in" doors, instead of "walk in doors." You can then give the refrigerators heavy use without materially lowering the temperature. I have found that on warm days it is a frequent habit of the help to use refrigerators with "walk in" doors to enter and cool off. Such a thing is undesirable, and while I am considerate of the help, I do not favor them using the refrigerators as personal cooling rooms.

It is advisable to have each refrigerator service door fitted with a staple screwed on to the door buck proper and projecting through a key hole in the door overlap, which is fitted with a metal armor plate. A series of master keyed padlocks can then be used.

Wherever sufficient headroom is available and the budget will permit, it is advisable to have refrigerators constructed with overhead coil bunkers. This permits the utilization of maximum floor area for shelves for storage, and provides the most complete system of air circulation possible. I have noticed that in many institutions, stock refrigerators have been installed which were originally designed for cooling by ice. These were nothing more or less than large domestic refrigerators. The portion which should have been available for food storage was largely taken up with refrigerating coils. Probably in all such instances the salesman talked economy in buying standard refrigerators. The refrigerators are usually kept cool by means of brine which circulates through the cooling coils. For average institutions this brine can leave the tank at around 25 degrees. Ice cream can not be kept in condition if the cabinets are connected to the same brine system as the refrigerator since ice cream freezers and hardening cabinets require brine around zero. Many times we find that these are hooked up to the one system, and wonder is expressed when the ice cream situation is not satisfactory. Ice cream cabinets should be self contained, mechanically cooled units. The ice cream freezer should be arranged for cooling by direct expansion from the compressor.

The construction of refrigerators is a specialty requiring study, experience, and an adequate manufacturing plant. There are many concerns manufacturing heavy duty refrigerators who are in a class entirely distinct from the many who manufacture large and small domestic refrigerators.

In buying equipment or designing an installation it is not wise to be too gullible in listening to competing salesmen. There are always some who follow the line of least resistance and advise cheap materials and plan an inadequate layout as it appears to be too difficult to stand out for sufficient equipment of first class quality. Having investigated from all angles and used every care, make up your minds definitely. Much trouble is caused by indecision and vacillating.

In choosing materials for the construction of equipment determine just what effect, for instance, the metal you have selected will have when in contact with food. Food flavors are easily affected. Manufacturers

of kitchen equipment should more thoroughly understand this fact, they should not take solely the viewpoint of how well a certain metal lends itself to fabrication. For linings of coffee urns we should avoid metals and use china and glass. There is an urn on the market with tempered glass leechers, liners, internal piping, and glass lined faucets. Excellent results are obtained with this type of urn.

There is a comparatively new metal known as Alleghany metal, which enters the field previously only catered to by monel metal. Alleghany metal contains no copper and is composed of steel, nickle and chromium. It will not rust or tarnish and requires merely a damp cloth followed by a dry rubbing to keep bright and clean. It is not affected by fruit acids or atmospheric conditions. It is dense and rigid, so much so, that lighter gauges can be used than in any other metal and still give adequate strength. I have already used it on five or six installations with great success.

In accepting specifications for kitchen equipment, avoid such definitions as "heavy," "suitable," "adequate" or "substantial." These are loose terms which leave you out on the end of the limb. Gauges of metals should be specified, the higher the number indicated the thinner the metal, for instance, 22 gauge is only about one half as thick as 16 gauge. Such terms as 22 gauge monel stretched or laid over heavy galvanized iron indicates poor construction, having appearance but no stability. If you are using monel metal, specify gauges sufficiently heavy to stand up alone without having a baser metal underneath.

Warmers and counters should have galvanized iron framework to take the load. The sheathing should be used for the purpose intended, that is to form the enclosure. All assembling should be done by riveting and not screwed together. The equipment will not then fall apart. All legs or standards should be adjustable, as floors are more or less uneven. Without the adjustable feature you will find numerous steel shims thrust under the legs by the installation crew to level up the units.

The construction of first class kitchen equipment necessitates the use of heavy power machinery. Factories not properly equipped, which are unfortunately in the majority, have recourse to many tricks. Sinks should be constructed of sheet steel with all seams electrically welded and the whole unit galvanized after fabrication. Any base metal, such as steel, which depends on a coating of other metal having a high resistance to corrosion, water, oxidation, and atmospheric conditions, should receive this metal coating after being formed. For instance, in fabricating

a sink of 14 gauge galvanized iron it is necessary to bend the material in the brake. Whenever this occurs, the coating of zinc opens up in small cracks and permits the water to come in direct contact with the steel and rust results. Sometimes the eye can not perceive these cracks, yet they are there.

The escapement of steam and heat from equipment should be controlled. Steam is formed after water boils. The water in bain maries and steam table pans should be kept at a few degrees below the boiling point. This is just as efficient in keeping food warm and the emission of steam is greatly reduced. Have the submerged steam coils equipped with thermostatic valves which automatically control the flow of steam through the coils, maintaining regular heat just below the boiling point. You will also find that the food in the steam tables will keep in better condition and with less spoilage.

If the budget will permit, I favor copper jacketed kettles lined with pure block tin brazed in place in small sheets and polished off smooth, presenting a minimum thickness to the lining of $\frac{3}{16}$ inch. This will give a reliable lining with a life of three years. Do not confuse this with copper kettles having wiped tin linings. The former costs 40 per cent more than the latter, and a wiped job wears through in patches in a few weeks.

Warmers and ranges should be insulated with asbestos and further lined with metal. This tends toward a cool kitchen and lessens steam and gas consumption. At the ends of the batteries of ranges and kettles glazed tile wing walls should be erected to deflect the heat on up into the canopy. These wing walls should be 5 feet, 2 inches high.

Canopies should be of the drop type. A steel framework, over which expanded metal lath has been shaped, should be attached to the ceiling proper and then plastered with Keene's cement to form an integral part of the ceiling. This constitutes the exterior. The interior is formed out of 14 gauge metal framed with angle iron and provided with sliding doors to control the flow of air and gases into the main ducts. This canopy work over the ranges can be of steel. Over the kettles the same construction should be carried out, using, however, non-corrosive metal instead of steel to prevent rusting.

The internal connecting ducts which lead to each of the sliding control doors should also be constructed of steel in the one case, and retinned copper in the other. Canopies over steamers and kettles should be provided with small gutters around the edges to catch the water formed

by condensation. These can lead down into the pan or pit by means of small bleeder pipes.

Frequently fires occur in the main duct and canopy over the range. This is due to the fact that the hot air rising from the ranges is grease laden, the grease gradually collects in the duct in large quantities and a fire is the result. One can overcome this by inserting in the main duct, just as it protrudes from the canopy, a grease filter which should be taken out and cleaned every week. As an added precaution it is advisable to run steam outlets at various points up into the canopy proper, these can be turned on to smother a fire if necessary.

All columns and building angles which occur in traffic aisles should be armored by means of 2 by 2 inch, 10 gauge, steel angles anchored in place to prevent unsightly damage to the columns by trucks. Wainscoting in kitchens should be either of smooth Keene's cement plaster or white tile. Domestic plaster, while cheaper, is easily damaged and is hard to keep clean.

Terrazo should never be specified for kitchen floors, as the grease disintegrates the cement binding the marble chips and the floor has to be frequently resurfaced. For the same reason, a cement floor is undesirable. Quarry tile will, when laid with tight joints, outlive any other finish. If quarry tile is specified to form the pit under the kettles it should be laid in pitch.

I advocate floor drains in the kitchens. They can be located near the refrigerators so that the coil bunkers can have trapped bleeder pipes discharging over and into the same drains. These can also function for floor cleaning. The discharge pipes from the refrigerator must merely discharge over the drain and must not be hooked up as an integral part of the floor drain. At each floor drain locate a half inch cold water faucet firmly stationed. This can be turned on from time to time to flush the drains and keep the trap functioning. Dry and neglected floor drains are a menace, as without the water seal sewer gases can back up the waste lines and enter the kitchen.

In general, I group kitchen equipment into two classes: Fabricated and Standard. By the fabricated I mean all units which are made up especially to order to suit specific needs, such as sinks, steam tables, bain maries, work tables and cabinets. By standard, I mean dishwashers, ranges, kettles, mixers, toasters, etc. It is advisable to specify your fabricated group in detail and let the contract to a reputable kitchen equipment manufacturer. One should also specify that the stand-

ard equipment be of well known makes and models. Concerns which pretend to make everything usually operate under a high overhead as they do not have large quantity production in any one item. Firms which confine themselves to mixers, for instance, should be able to give greater value; their research departments should be better able to keep up with improvements. Those endeavoring to cover the entire field are likely to slight the finer points. This is the day and age of specialization.

To return to the distribution of food, everything possible should be done prior to the time the hot food must leave the kitchen. Service refrigerators should be constructed large enough to take trays of salads. This same system may be applied to the cold desserts. These trays should rest on angle slides set about three inches on center with distance between properly apportioned for clearing. Coffee spoils with frequent handling. It should be made at the point where the tray is served. This applies also to toast and boiled eggs.

It merely means that at the zero hour most of the work is done. We can now concentrate on getting up the hot food quickly. If trays are served from ward pantries I believe that all trays should be set up and loaded in the diet kitchens, so that a dignified atmosphere prevails in the wards and corridors without confusion and noise. For ward service, carts with capacities up to 21 trays can be used. Trays for private patients may be stored efficiently on angle iron frames and the individual trays carried to the bedside.

For small institutions where steam is not available all the year round, it is best to keep the kitchen equipment entirely separate from the main steam plant and install a small gas fired automatic steam generator which will take care of the steam coils in the coffee urns, warmers, steam tables and kettle and steamer. Open gas burners under urns are slow, and when under steam tables and in warmers are inclined to deposit soot on the plates and form condensation of water under the water pans of the steam tables. Gas, which would ordinarily be consumed by the many individual burners in the gas heated equipment, when centralized by utilizing the gas boiler, results in economy in gas used. The task of continually lighting and adjusting numerous gas burners is also obviated.

There is a gas fired steamer now on the market which is very satisfactory, it is not a pressure steamer. The steam is generated in the steamer and percolates up through the unit, coming out through a vent in the top. While it is about 15 per cent slower than the ordinary pressure steamer, the results obtained warrant the extra time consumed. Many contend

that subjecting food to steam pressure, often up to 25 pounds, detracts from the food value and color of the finished product.

In closing, let me call your attention to the importance of buying, so far as possible, equipment having a permanent finish. It is difficult to send equipment out for refinishing from time to time. For this reason I am not in favor of duco or Japan enamel. If enamel must be used, then specify what is known as porcelain enamel finish. This is baked on under high temperature and is the only lasting protection for feet, standards and sheathing for warmers. If there is money for a more expensive metal, a non-corrosive alloy can always be used, which really is cheaper in the long run.

EDITORIAL

Obesity

There are many problems in obesity difficult of explanation. Two men of equal weight and height receive the same food and do the same amount of work for a similar period; one gains rapidly, the other does not. A decrease in basal metabolism has been observed in prolonged inanition or weight loss. Is there a corresponding increase during periods of overfeeding? Does the specific dynamic action of protein stimulate metabolism to the same extent in the constitutionally obese as in normal individuals? Does the adipose person perform work with less energy expenditure than his lean brother? These problems puzzle the dietitian; their solution may explain certain difficulties met in the dietary treatment of the obese.

Bauman[1] concludes after a review of the literature, that most of the experiments show a relatively decreased heat production in obese subjects after protein feeding. There is a compensatory rise in the basal metabolism during periods of overfeeding. The administration of a preparation from the anterior lobe of the pituitary gland increases specific dynamic action in some individuals, while tending to lower basal metabolism unless combined with thyroid. That the endocrine glands, notably thyroid and pituitary, influence the specific dynamic action of protein has been suggested.[2]

The varying response of the normal individual at different times to similar quantities of protein must be considered in evaluating these experiments. Varying rates of digestion and absorption of meat may be a disturbing factor. These problems, and that of the influence of high-calorie feeding, needs further study and confirmation.

The customary peace of mind of the obese person—a possible cause contributing to his obesity—may be somewhat ruffled when he learns of his greater predisposition to diabetes, hypertension, gallstones and

[1] Bauman, Louis: Obesity: Recent Reports in the Literature and Results of Treatment. Jour. Amer. Med. Assoc., 90: 22 (Jan. 7) 1928.

[2] Bauman, E. J. and Hunt, L.: On the Relation of Thyroid Secretion to Specific Dynamic Action. J. Biol. Chem., 64: 709 (July) 1925.

cardiac embarrassment; fat makes him a poorer surgical risk, favors the development of hernia after abdominal operations, and aggravates or initiates orthopedic abnormalities of the feet. The effect of obesity on the duration of life is well known.[3] Fifty per cent of patients with hypertension are obese,[4] and 70 to 85 per cent of persons with diabetes give a history of obesity.[5] Of 215 patients with cholelithiasis on whom operations were performed at the Presbyterian Hospital in New York City, 88 per cent were overweight. Would not such a list of possibilities for the fat, just enumerated, if suitably framed and hung above the dietitian's desk, assist her in putting over to the obese patient the necessity for keeping on his diet?

The Presbyterian Hospital has found it desirable to establish an ambulatory clinic, consisting of a physician, a dietitian, and a clerical aide, for the purpose of advising adipose persons. Lack of balance between the ingestion of food and expenditure of energy was found to be the prevailing cause of fat-storage. Treatment consisted of a low calorie diet, exercise, and thyroxin (given to 34 out of 183 patients treated). The daily food allowance approximated 100 grams carbohydrate, 70 grams protein, and 60 grams fat. The protein intake was lowered in hypertension and salt was restricted. Water and salt intake was lowered in cardiac cases.

M. P. H.

Diabetic Foods

A guide to the selection of suitable diabetic foods from the many so labeled, is of great help to the physician, the dietitian and the trained diabetic patient. The term "diabetic food," while applied usually to a variety of products having a content of carbohydrate notably below that of ordinary products in the same class, is often misleading, especially to the untrained patient. The latter in his eagerness for help often confuses the qualification "diabetic" as something curative rather than as merely a dietetic adjunct; on the other hand, there are many so called "diabetic breads" whose starch content may approach 50 per cent.

The management of the diabetic diet has markedly altered in the last ten years. The restriction of carbohydrate is not the whole story today;

[3] Medical actuarial table 2: 12, 1911.

[4] Foster, N. B.: The Relation of Hypertension to Cardiorenal Disease. Amer. Jour. Med. Sc. 164: 808 (Dec.) 1922.

[5] Joslin, E. P.: The Diabetic Problems of Today. Jour. Amer. Med. Assoc., 83: 727 (Sept. 6) 1924.

sugar can be formed from protein. Indiscriminate use of low- or non-carbohydrate, high protein breads, is no longer in vogue. The importance of maintaining a ketogenic-antiketogenic ratio may also necessarily restrict fats.

Many foods qualified as "diabetic" have differed little, except in price, from common foods of the same class. There is no longer a Federal definition of a diabetic food.[1] They are now regulated under the provisions of the Food and Drugs Act which refer to drugs.

Dr. Bailey, of the Connecticut Agricultural Experiment Station, who has rendered a great service in the past in analyzing special foods for use in the diabetic diet, has also discontinued the above terminology. In his recently revised Bulletin 286[2] he mentions that there is no objection to special foods for the diabetic patient provided that they are offered without misrepresentation.

Commercial products having little or no food value, such as low-carbohydrate fruits canned without sugar, low-carbohydrate canned vegetables, sugarless jams, sugar-free desserts and practically non-nutritive flours and breads, seem especially to meet a need in certain cases. The latter two examples help materially to fill an aching void when the food tolerance allowance, as supplied by common foods, fails to do so. The patient should be encouraged to use only those brands of diabetic foods that are labeled with an accurate percentage composition.

To meet the demand for more thorough information as to the composition of common foods, Dr. Bailey has made a welcome addition to the available sources of information. Extensive analyses of a variety of cereal products, as well as of the many newcomers in the fruit and vegetable field in this country, make the bulletin particularly helpful.

M. P. H.

A Forward Movement

The Second Annual Nutrition Lecture of the New York Association of Dietitians was held as a joint meeting with the Section of Medicine at the Academy of Medicine on January 17. Dr. Eugene Du Bois, Associate Professor of Medicine, Cornell University, and Director of the

[1] Revoked by the United States Department of Agriculture, Food Inspection Decision 199.

[2] Bailey, E. M.: The Thirty-First Report on Food Products and the Nineteenth Report on Drug Products. Part I, Analyses of Common Foods and Special Foods, Bull. 286, Conn. Agr. Expt. Station, April, 1927. This Bulletin is mailed free to citizens of Connecticut who apply for them, and to other applicants as far as the edition permits.

Russell Sage Institute of Pathology, gave the address of the evening. His subject was "The Control of Protein in the Diet."[1] The paper was discussed by Drs. Mary Swartz Rose, Nellis B. Foster and Grace MacLeod. Dr. Henry James, chairman of the Section on Medicine presided. At the invitation of the New York Association of Dietitians, the various organizations in the city who are primarily interested in the subject of nutrition were well represented. An attendance of about seven hundred persons was an indication of the interest shown.

Dr. Du Bois emphasized the fact that recent investigators tend to favor more generous amounts of protein in the diet than was advocated by Chittenden and others in the past. In the future he felt that more attention would be paid ot the danger of partial protein starvation in chronic diseases and in acute infections.

Miss Emma Holloway, the President, and the members of the New York Association of Dietitians should be congratulated for their wisdom in establishing this annual lecture. So successful a precedent might well be followed by other branches of our National Association.

M. W. N.

[1] To be published in the September issue of the JOURNAL.

BOOK REVIEWS

Practical Dietetics. By Alida Frances Pattee. Price $2.75. Mt. Vernon, N. Y.: A. F. Pattee, 1927.

Practical Dietetics has been the good friend of nurses and dietitians for many years and the author is to be commended for keeping pace—by frequent revision—with the constant changes in the field of nutrition and diet therapy. The work is carefully arranged to meet the needs of those for whom it is written. It is readable and not too technical for the nurse or the layman whose knowledge of science is limited, yet it links its statements closely enough to scientific references to make them authoritative. The fact that much of the diet therapy section has received the stamp of approval from recognized specialists gives one confidence in its accuracy.

The revised food list and calorie chart worked out for the various recipes given in the text is useful and practical as it gives the weight and amount of food served as well as the calorie value. In this latest edition several of the newer recipes for fluids in use in special diets have been added. We note the revision in the treatment of arthritis, high blood pressure and epilepsy, yet question why no mention is made of the recent development in the dietary treatment of anemia. We think, too, that the subject of constipation is treated rather too generally, since the diets recommended should differ according to the type of the trouble.

The revisions that have been made for this sixteenth edition add much to the value of the book.

E. F. H.

Nutrition and Diet in Health and Diesease. By James S. McLester, M.D., Professor of Medicine at the University of Alabama. Price, $8.00. Pp. 783. Philadelphia: W. B. Saunders Company, 1927.

This is an obviously important treatise which easily ranks among the first on the subject. It is written in pleasant style with experience and good sense speaking from every page. It should serve as a source of up-to-date information to practitioner, medical student and dietitian.

The contents consist of Part 1, Nutrition in Health, which includes chapters on metabolism, digestion, nutritional factors of fundamental importance and those of lesser importance, food products, diet in health and feeding of infants by Dr. McKim Marriott. Part 2, Nutrition in Disease, includes articles on deficiency diseases, diabetes, gout, obesity and leanness, anaphylaxis and food poisoning, diseases of the kidney and urinary tract, disease of the digestive organs and a number of other conditions in which diet plays a lesser rôle. An all too short chapter by Dr. Barney Brooks is devoted to the feeding of surgical patients. Well selected menus, tables and charts are plentiful. Important references to the available literature are rarely omitted.

A few inaccuracies will require correction in subsequent editions. The possibility that tryptophan is a precursor of thyroxin (p. 70) may be dismissed, since it has been definitely shown that it is a tyrosin derivative. Creatine, not creatinine, is one of the chief extractives of meat (p. 164).

Certain statements are debatable, for example, "Blood sugar estimations are of value to the physician but they can easily be dispensed with in the routine management of the case (diabetes). In fact, as experience grows, we are learning to depend less on repeated blood examinations and more on routine urinalysis" (p. 322). On page 387

the statement is made that "Obese children are often sufferers from some endocrine disturbance and are therefore to be benefited but little by diet. Food curtailment in the child is practically always a mistake; for it is likely to retard development." In the reviewer's experience blood sugar estimations are almost indispensable in the management of diabetic patients. Also it would seem that an attempt should be made to correct the diet of overweight children, provided that it can be done under competent supervision. It is to be hoped that in the next edition more space will be devoted to the feeding of surgical patients.

L. BAUMAN, M.D.

Cultivating the Child's Appetite. By C. Anderson Aldrich, M.D. Price, $1.75. New York: The Macmillan Company, 1927.

The author has attempted the very difficult problem of presenting an intricate discussion of an important subject phrased for both lay and professional people. He has assumed that those interested in the topic will care to begin with the causes of difficulty based upon various abnormalities among the factors creating the need for food, or interfering with its use. That Dr. Aldrich has given his subject much thought, and has satisfied himself of his ground, is evidenced by the many angles from which he views the problem. He has taken up the subject of prevention as well as the extremely important topic of treating an already established condition.

GEORGE R. IRVING, M.D.

Fundamentals of Dietetics: A text book on dietetics for nurses. By Bertha M. Wood and Annie L. Weeks. Price, $1.75. Pp. 241. Philadelphia and London: W. B. Saunders Company, 1926.

This compact little book meets the demand for a concise, simple and workable text book on dietetics for student nurses. It is divided into two courses, giving fifteen one-hour and fifteen two-hour periods in preliminary dietetics and twelve two-hour periods in advanced dietetics, making a total of sixty-nine hours.

Each lesson is divided into lecture, review questions and outline of laboratory work, giving supplies necessary for each class and recipes for the dishes to be prepared.

M. P. H.

Tea-Room and Cafeteria Management. By R. N. Elliot. Price, $1.50. Boston: Little, Brown and Company, 1927.

This little book should be of great value to the person who is planning the opening of a tea-room or cafeteria, especially if that person be one of little experience. As the author states in his conclusion, "The guidance of a restaurant from the port of hazardous embarkation to the safe harbor of assured success calls for navigating experience in uncommon measure." By following the sane advice with which every chapter is replete, the prospective tea-room manager might be warned of the rocks upon which many such enterprises have been wrecked.

The author clearly points out the many essentials to success other than just being a good cook, which qualification many a woman has fondly dreamed would lead her to fortune. Excellent food the author lists as of paramount importance, but it must be produced under sound business conditions.

The book deals with the capital necessary for starting such business and the reserve one should have to tide over the time until revenues more than balance expenses. It deals with location, decoration, problems of equipment and the psychology of names and signs. It emphasizes the importance, of that too often neglected point, of a definite system of accounting. The book is written in a very readable style and is worthy a place on the desk of the operator as well as that of the student of tea-room management.

E. F. H.

CURRENT LITERATURE

MARJORIE HULSIZER COPHER

American Journal of Diseases of Children:

November, 1927.

P. 721. Seasonal variation of the antirachitic effect of sunshine. F. F. Tisdall and A. Brown.

P. 737. Antirachitic effect of sunshine. F. F. Tisdall and A. Brown.

P. 742. Antirachitic value of the sun's rays through various special window glasses. F. F. Tisdall and A. Brown.

P. 753. Does the irradiation of cod liver oil increase its antirachitic potency? E. T. Wyman, A. D. Holmes, Y. W. Smith, D. C. Stockbarger and N. G. Pigott.

P. 845. A study of the antirachitic factor in human and in cow's milk. A. F. Hess and M. Weinstock.

P. 870. Feeding care of the infant in the obstetric nursery. F. C. Neff.

American Journal of Hygiene:

November, 1927.

P. 791. A milk-borne epidemic of poliomyelitis. W. L. Aycock.

P. 811. The effect of measured amounts of ultra-violet radiation on the blood count of normal rabbits. M. Hardy.

January, 1928.

P. 55. Correlations between the death rate from diabetes mellitus and other demographic factors. R. Gordon.

American Journal of Physiology:

November, 1927

P. 570. The determination of the surface area of women and its use in expressing basal metabolic rate. H. S. Bradfield.

P. 577. The protein intake of medical students. H. H. Beard.

P. 630. Experimental cretinism: Rachitic-like disturbance in extreme hypothyroidism. M. M. Künde and A. J. Carlson.

P. 665. Central factors in hunger. F. Hoelzel.

December, 1927.

P. 1. A study of the laxative action of wheat bran. G. A. Williams.

P. 47. Concerning the effect of diet on the concentration of the non-protein sulfur of blood. W. Denis and L. Reed.

P. 60. Blood regeneration in severe anemia. X. Assimilation and conservation of bile pigment, blood hemoglobin and muscle hemoglobin. G. H. Whipple and F. S. Robscheit-Robbins.

P. 76. Blood regeneration in severe anemia. XI. Iron effect separated from organ effect in diet. F. S. Robscheit-Robbins and G. H. Whipple.

P. 115. The gastric hunger mechanism. The effect of food upon the empty stomach and its relation to hunger. M. G. Mulinoa.

American Journal of Public Health:

November, 1927.

P. 1121. Sanitary construction and arrangement of milk pasteurizing plants. C. A. Holmquist.

P. 1142. The psychology of eating. R. E. Humphries.

December, 1927.

P. 1221. The relations of paratyphoid bacilli to food poisoning. E. O. Jordan.

P. 1230. Has prohibition promoted the public health? Haven Emerson.

Archives of Disease in Childhood (British):

October, 1927.

P. 285. A study of phosphorus absorption in normal and rachitic children. G. Murdoch.

P. 315. The frequent occurrence of underfeeding in early infancy. D. Paterson and A. Marr-Geddes.

December, 1927.

P. 338. Fecal fat analysis in children. G. A. Harrison.

Archives of Pediatrics:

December, 1927.

P. 758. The use of unsweetened evaporated milk in infant feeding. F. E. Rice.

P. 765. Soured milk in infant feeding.

Hospital Management:

November, 1927.

P. 47. How long can a hospital function with suspended food source? M. D. Marlowe.

P. 60. American Dietic Association meets at St. Louis.

January, 1928.

P. 38. Dietitians will approve hospitals for student training. K. M. Thoma.

P. 78. Dietary Department.

Journal of American Medical Association:

October 22, 1927.

P. 1423. Gelatin added to the diets of artificially fed infants. J. H. Hess and I. Nick Chamberlain.

October 29, 1927.

P. 1505. Oxidative destruction of vitamins A and E and the protective action of certain vegetable oils. H. A. Mattill.

November 5, 1927.

P. 1577. Blueberry leaf extract. Physiologic and clinical properties in relation to carbohydrate metabolisms. F. M. Allen.

P. 1584. An outbreak of gastro-enteritis: Milk Borne epidemic at Dyersburg, Tennessee, caused by salmonella suipestifer. H. C. Stewart and William Litterer.

P. 1587. Vitamin E. H. M. Evans and G. O. Burr.

November 19, 1927.

P. 1766. Constipation: Neurogenic factor. R. S. Boles.

P. 1770. Effects of abundant cereal intake. Use of cereals as chief source of calories. G. R. Cowgill, M. H. Jones,. R. A. Frisch and G. P. Jackson.

December 3, 1927.

P. 1930. Effects of abundant cereal intake: Use of supplements other than milk. G. R. Cowgill, M. H. Jones, R. A. Frisch and G. P. Jackson.

January 7, 1928.

P. 22. Obesity: Recents reports in the literature and results of treatment. L. Bauman.

P. 32. The protein requirements of adult man. Editorial.

January 14, 1928.

P. 120. The dangers of ultraviolet rays.

January 21, 1928.

P. 161. The penetration of ultraviolet rays into live animal tissues. D. I. Macht, W. T. Anderson, Jr., and F. K. Bell.

January 25, 1928.

P. 292. Food poisoning probably caused by bacillus proteus. M. L. Ilsley.

Journal of Biological Chemistry:

November, 1927.

P. 435. Nutritive properties of the mung bean. V. G. Heller.

P. 549. A study of the effect of creatine on growth and its distribution in the tissues of normal rats. A. Chanutin.

P. 567. Zinc and normal nutrition. R. B. Hubbell and L. B. Mendel.

December, 1927.

P. 619. The fundamental food requirements for the growth of the rat. II. The effect of variations in the proportion and quality of recognized nutrients. L. S. Palmer and C. Kennedy.

P. 715. The absorption and utilization of insulin as evidenced by glycogen formation in the white rat. M. G. Bodey, H. B. Lewis and J. H. Huber.

P. 779. The relation of the rate of growth to diet. II. L. B. Mendel and H. C. Cannon.

January, 1928.

P. 1. Studies in fat metabolism. I. The influence on blood bipeds of single foodstuffs. C. W. McClure and M. E. Huntsinger.

P. 43. The digestibility of the proteins of some cotton seed products. W. D. Gallup.

P. 55. The effect of muscular work upon the endogenous catabolism of the tissues. H. H. Mitchell and G. H. Kruger.

P. 143. The effect of irradiation and cod liver oil on the calcium balance in the adult human. M. C. Hart, D. Tourtellotte and F. W. Heye.

P. 263. On the amount of vitamin B required during lactation. H. M. Evans and G. O. Burr.

P. 273. Development of paralysis in the suckling young of mothers deprived of vitamin E. H. M. Evans and G. O. Burr.

The Modern Hospital:

November, 1927.

P. 148. Pointing the way to success for the Hospital Dietitian.

December, 1927.

P. 156. A food conveyor that is also a steam table.

January, 1928.

P. 132. Irradiating ourselves and our food. G. Sheard.

P. 158. How to clean knives.

NEWS NOTES

The Eleventh Annual Meeting of the American Dietetic Association will be held at the New Willard Hotel, Washington, D. C., October 29, 30, and 31.

American Public Health Association. Homer N. Calver, Executive Secretary of the Association, announces that active membership in the Association is limited to those who are professionally engaged in public health work. This obviously includes nutrition workers. Active members who have been members for two years and have rendered distinguished service in the public health field are eligible to Fellowship. Nutrition workers are the most recent class of experts who are contributing their knowledge to the public health campaign. Although the youngest group, they are rapidly becoming one of the most important, and most influential. Nutritionists desiring to join the Association may write directly to Miss Clyde B. Schuman, The American Red Cross, Washington, D. C., who will supply them with membership application blanks. There is a distinct place—and so far as the American Public Health Association is concerned—a distinct welcome to all qualified workers who wish to join.

Health Fads. Moderation in all things, especially diet fads and tuberculosis fads, was urged by Dr. James A. Miller and Mrs. Mary DeGarmo Bryan at a meeting on "Fashions in Health Work" in December before the Associated Out-Patient Clinics Committee and the New York Tuberculosis and Health Association. Mrs. Bryan said that the greatest danger from food fads comes to those who are suffering from a chronic organic disturbance who eat unbalanced meals and thus aggravate the already existing trouble. The danger of reducing fads, especially to young working girls who eat inadequately and break down through ill health, was emphasized.

Faith Healing. Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*, spoke before the members of the Kings County Medical Society (New York) on January 25th on faith healing, osteopathy, chiropractic and the various forms of dietary healing. Dr. Fishbein had no quarrel with adults who practice faith healing, etc.—"they may choose their own forms of suicide." Children, however, should be protected.

Per Capita Food Consumption Declines. According to the National Industrial Conference Board, Inc., New York, dietary habits have changed; the per capita meat consumption in the United States was more than 10 per cent less in 1926 than it was in 1907. The consumption of wheat flour per capita decreased more than 20 per cent from 1899 to 1923, and that of corn meal more than 75 per cent. The decline in food consumption is probably a by-product of the mechanization of the present day which has reduced the amount of energy building food required and has tended to increase sedentary occupations.

Washington Dietetics Association. The Washington branch of the American Dietetic Association met at the Hollywood Tavern, Seattle, Washington, on December 16, 1927. Twenty-nine were present. Following the dinner and business meeting, Ruth Lusby, manager of the University Commons, gave a very interesting and instructive talk on "Marketing." Two student dietitians are now taking advantage of the six months training course offered under the auspices of

the Washington branch. The Committee is working on plans to perfect the course and expect soon to include an affiliation with the Children's Orthopedic Hospital. Dorothy Goodrich, of Seattle, is the Publicity Chairman for this group.

Rochester Dietetic Association (New York). The officers of the Association for 1928–1929 are: President, Grace Carden, Strong Memorial Hospital; Vice-President, Mrs. Donald Posson, Park Avenue Hospital; Secretary, Effie Winger, Rochester General Hospital; Treasurer, Olive Klaus, Genesee Hospital. The December meeting was held at the Rochester General Hospital with thirty-two members present. The program was made up of informal talks by members of the Association. Miss Beach described her work as a social service dietitian and illustrated it with a unique exhibit of wax fruits and vegetables. Miss Sillman outlined her work as an instructor in Mechanics Institute; she discussed the different phases of work open to dietitians and how the Institute tries to meet the needs of each one in its classroom work. Miss Vye of Highland Hospital had an interesting exhibit of her posters, scrap book and other material used in the Diabetic Clinic. Miss Clarke of Clifton Springs gave a short talk on the work of a dietitian in a tuberculosis sanitarium.

The January meeting was held at Mechanics Institute. Dr. Morris Missel read a paper on "High Fat Diets for Diabetics." Type diets were exhibited. For the February meeting an invitation was accepted to meet with the Nutrition Conference at Strong Memorial Hospital. Dr. Lafayette B. Mendel is to be the speaker.

Chicago Dietetic Association. A Tri-State Conference of dietitians, sponsored by the Chicago Dietetic Association, was held at the Albert Merritt Billings Hospital, University of Chicago, January 27 and 28. The dietitians of Wisconsin, Illinois and Indiana were invited to attend, but representatives of Ohio, Iowa, Michigan and Florida were present, so it is hoped this is the beginning of yearly mid-western conferences.

The conference was opened on Friday afternoon by Mrs. Fischer, President of the Chicago Dietetic Association, who introduced as the first speaker Mr. Asa Bacon, Superintendent of Presbyterian Hospital, Chicago. Mr. Bacon is well known for his original ideas on central service, and contrasted vividly the present system of food service in hospitals, stressing particularly central service, with the "boarding house" style of twenty or thirty years ago.

The next speaker was Chi Che Wang, Ph.D., of the Nelson Morris Institute for Medical Research at Michael Reese Hospital, on the "Influence of Disease and Diet on Blood Chemistry," including a "Preliminary Report of Work on High and Low Protein Diets." Slides were shown giving tables and charts comparing the blood chemistry in normal and various abnormal conditions. According to recent experiments made by Dr. Wang on high and low protein diets, the blood chemistry findings on a diet containing 2 grams of protein per kilogram of body weight would be considered pathological were the previous diet history unknown. On the low protein diet, containing 0.5 grams of protein per kilogram of body weight, the subjects lost weight and complained of weakness. Each of these diets were continued over a period of several weeks.

The afternoon session closed with a paper on "Food Injuries in Infant Feeding" by Isaac A. Abt, M.D., Professor of Pediatrics, Northwestern Medical School. He summarized the various theories concerning infant feeding problems in vogue during the past years. Food injuries are more often due to sins of omission rather than commission. Generally these injuries disappear after the diet is corrected.

That evening a dinner meeting was held at the Windermere East Hotel, followed by short addresses given by Katherine Blunt Ph.D., Chairman, Department of Home Economics, University of Chicago, and Laura Winkleman, assistant Professor of Home Economics, Lewis Institute, Honorary Members of the Chicago Dietetic Association, Mrs. Richmond, Business Manager of the American Dietetics Association, and Mrs. Gilbert, past President of the Chicago Dietetic Association.

The speaker of the evening was Milton Portis, M.D., who gave an illustrated lecture on "Dietetic Management in Peptic Ulcers." Peptic ulcers are the most common of gastro-intestinal troubles, but are often unrecognized or poorly treated. He urged dietetic and medical treatment adapted to each individual case, except in those cases in which it is known that surgery is the only remedy.

On Saturday morning the dietitians of Chicago institutions were at home to those attending the conference. At noon there was an informal luncheon at Ida Noyes Hall, University of Chicago.

At the afternoon meeting Solomon Strouse, M.D., Attending Physician, Michael Reese Hospital, and Associate Clinical Professor at Rush Medical School, gave a talk on "Therapeutic Diets in Relation to Normal Diets." He stated that a normal diet is flexible, and for any one person is that diet on which he maintains health. Ancient tradition is largely followed in giving therapeutic diets, and scientifically very little is known concerning them. The individual patient and practical results rather than theoretical rules should be considered in prescribing a diet.

An informal dinner at Maillards' followed by theatre parties closed the conference that evening.

Ontario Dietetic Association. The program planned for this year's meetings is proving quite successful. The lectures on Nutrition of the Mayo Foundation 1924–25 are taken as the basis for study. Each meeting is to consist of one or more papers on each of the chapters. Miss Laird of the Department of Household Science, University of Toronto, lead the first evening. There were also papers by Alice Pidgeon, Alice Edwards and Mrs. Burns. The second meeting was addressed by Dr. C. H. Best, the associate of Dr. Banting in the discovery of insulin.

Baltimore Dietetic Association. In December, Mr. Dodson, former assistant purchasing agent for the City of Baltimore spoke on "Some of the problems of purchasing." In January, the meeting was held at Goucher College. Dr. George Walker, who has done a most interesting study of food problems in the institutions of Maryland gave us the results of his investigations. He conducted a very informal but enthusiastic discussion at the close of the program. A dinner meeting was held at the Belvedere Hotel in February. Mrs. Mary Pascoe Huddleson, editor of the Journal of American Dietetic Association was the guest speaker of the evening. She spoke on the importance of the rôle of the consulting dietitian, giving applicable points to all dietitians who are in the field of nutrition. The meeting proved most gratifying to those who have watched the steady growth of the Association during its first year. The Baltimore Dietetic Association plans to meet jointly with the Baltimore Home Economics Association in April at the State Normal School, Towson, Maryland.

Massachusetts Dietetic Association. At the November meeting, Mr. Gifford LeClear, Architect, Densmore, LeClear & Robbins, Boston, gave an interesting talk on central tray service problems. He exhibited a new tray truck which he thought might be made adaptable to central tray service in certain type hospitals. This insulated tray truck on wheels is divided into two parts, one of which is heated. Two half trays, which fit into a master tray, are used. Each master tray with the half tray set up with cold foods is placed on a shelf in the cold part of the truck, and the half tray with the hot foods is placed on the corresponding shelf in the heated part of the truck. When ready to serve on ward the hot tray is placed on the master tray with the corresponding cold tray. This truck is plugged in on heated side of truck before and during service of trays. This type truck is being tried out at present in one of the Boston hospitals, and much interest is manifested as to the possibilities.

The December meeting was a joint meeting with the Social Service Committee, New England Home Economics Association. Dr. Sumner H. Remick, Chief, Division of Tuberculosis, Massachusetts Department of

Public Health, gave an interesting and stimulating talk on "Massachusetts Program for the Prevention of Tuberculosis.

At the January meeting, Mr. John Hopkins, Director of Chamber of Commerce Dining Rooms, Boston, spoke on "Feeding the Public." He outlined briefly his method of purchasing and menu-making. He emphasized the need, especially in a cafeteria, of dressing up the food to appeal to the public eye and taste. He mentioned fish, as an example, and told of educating his public to like it and of building up a large daily demand for it. He did this by experimenting with various methods of preparation, seasonings, savory sauces, etc., in other words, he raised fish from a plebian to an epicurean dish. He admitted this took a long time and much experimenting but claimed the financial return on fish is so great as to make it worth while. He spoke of the need of the personal touch in the work, and said that he planned to walk around the cafeteria at meal hours and keep an eye out for anything that might need a little adjusting or changing, whether it is an employee needing a clean coat, or a food which has become discolored on standing. In this way he also gets to know his public better, meets them, listens to their suggestions, helpful and otherwise, and promotes the idea of better service. Later, about twenty-five of the dietitians were able to accept Mr. Hopkins' invitation to visit his kitchen and dining rooms, and found the trip well worth while.

Miss Frances Stern of the Boston Dispensary is still in California, where in connection with the California Tuberculosis Association, she is starting food clinics throughout the State.

Miss Gretchen McMullen, formerly at the Brunswicke Shoppe, Boylston Street, Boston, is now giving cooking demonstrations and lectures over the radio every Wednesday and Friday morning. She is broadcasting from Station WEEI, Boston.

Miss Betty Hammet has been appointed as Training Table Dietitian at Harvard College, Cambridge, Mass.

Miss Marjorie Webster has gone to the Childrens Hospital as Administrative Assistant.

Miss Marion Ladd, formerly of the Phillips House, Massachusetts General Hospital, was married recently to Mr. Nicolls. Mr. and Mrs. Nicolls are now at home at 106 St. Stephens Street, Boston.

Miss Thelma Poor, Dietitian at the Forest Hills Hospital, Boston, was married New Year's Eve to Mr. Harry Freeman Clark.

The British Columbia Dietitic Association has been holding its regular monthly meetings with a slight variation this year; a speech feature is made of each quarterly meeting.

Miss E. Warner, who is now in charge of the Nutritional Department of the Fraser Valley Dairy, was hostess at the October meeting, at which plans were formulated for the coming year and an address was given by Mr. J. Price on the "Pasturization and Handling of Milk."

The November meeting was devoted to a report by Ethel Pipes, dietitian of the Vancouver General Hospital, who attended the Convention of the Western Dietetic Association which was held in Seattle. Miss Hansford, the President, was hostess on this occasion.

In December the Association held a "Donation Bridge" at the home of Mrs. A. deTwornick, at which donations were received for assisting those in need both dietetically and financially.

During Christmas week, Miss McMaster entertained the members in honor of Mrs. E. Campbell, formerly Hazel Munro, who is now residing in Bella-Coola where her husband is superintendent of the hospital.

The first meeting for the year 1928 was a special meeting which took the form of a dinner at the Hotel Ceorquia. Members of the Home Economics Association met with us on this occasion. The speaker of the evening was Professor N. S. Golding of the University of British Columbia, who spoke on "Fat Soluble Vitamines."

The Minnesota Association of Hospital Dietitians held their annual election of officers at the November meeting at Millard Hall, University of Minnesota. The following officers were elected: President, Miss

Louise Marty, New Asbury Hospital, Minneapolis; Vice-president, Miss Lillian Lundquist, Eitel Hospital, Minneapolis; Recording Secretary, Miss Selma Wirtenberger, Gillette Hospital, St. Paul, Minnesota; Corresponding Secretary, Miss Harriet Warmington, United States Veterans' Hospital No. 106, Fort Snelling, Minneapolis; Treasurer, Miss Helen Kuntz, Northwestern Hospital, Minneapolis. At this meeting, Miss Marty and Miss Warmington gave reports on the American Dietetic Association Convention. The meeting adjourned for a dinner at one of the cafes in Minneapolis. The December meeting was held at Millard Hall, University of Minnesota. The program was as follows:

1. Résumé of Miss Treat's talk given at the American Dietetic Association Convention—Miss Warmington.
2. The Relation of Employee to Employer —Mrs. Baker, of the Coöperative Alliance of Minneapolis.
3. The Psychology of Employment—Miss Meyers, University Faculty Member.
4. Round Table Discussion on Salary and Vacation Ranges led by Miss Thom.

Each member answered roll call with a Christmas suggestion or recipe. The meeting adjourned to a dinner at the Minneapolis Woman's Club with a bridge hour afterwards. The January meeting was held at the Purity Bakery, St. Paul. The program was as follows: Trip through bakery, dinner at six o'clock after which members of the Purity Staff spoke on the following subjects:

1. Commercial Bread versus Home Made Bread.
2. How to judge Good Bakery Bread.
3. What Regulates the Price of Bread to the Institutions.
4. Sanitary Laws as applied to Commercial Bakeries.

This was a most enjoyable meeting and the Association feels that such a gathering stimulates a better feeling between the salesmen and dietitians.

The St. Louis Dietetic Association held its annual election of officers at the November meeting. Ruth Cooley was re-elected President; Betty Ryan, Vice-President; Isabel Currie, Treasurer and Frances Ward, Secretary. The meetings, which have been held at the Jewish Hospital this year, will be transferred to one of the class rooms of the new Washington University Nurses Home, for 1928.

Dr. and Mrs. Lee Schreoder (nee Gracia Rowley) are the parents of a small daughter, born November 22, at the new St. Louis Maternity Hospital.

Amalia Lautz spent her Christmas holidays in St. Louis, the guest of Marjorie Hulsizer Copher.

Louise Wilkerson, formerly of Barnes Hospital, has accepted a position as Chief Dietitian at Morningside Hospital, Tulsa, Oklahoma.

Dr. Chas. H. Eyerman of Washington University, delivered a most interesting lecture before the St. Louis group on "Food Allergies" at the January meeting.

Elizabeth McCord of St. Luke's Hospital, was married on December 31, to Charles Dodd Parker of Walpole, Mass. Miss McCord will continue her work until April 1st of this year, after which she will make her home in St. Paul, Minnesota.

Mrs. Chas. Johnston (nee Betty Hagenbush) has accepted a position at the St. Louis Lutheran Hospital.

Irene Darrow, Barnes Hospital graduate, is in charge of the Dietary Department at Bethesda Home.

Susan Tillary of the Levering Hospital, Hannibal, Mo., is to continue her studies in Home Economics at the beginning of the next quarter at Missouri University.

Nellie Saylor is now director of the Department of Dietetics at Childs' restaurant in Washington, D. C.

Inez Cruse, who has been assistant dietitian at St. Luke's Hospital for the past two years, will go to Chicago Memorial on February 1st.

Ruth Savage, of Urbana, Illinois, former Barnes Hospital Student, has accepted a position at West Suburban Hospital, Oak Park, Illinois.

The District of Columbia Dietetic Association held a joint meeting with the Nutrition

Section of the Home Economics Association on Tuesday evening January 17th. The speakers were Dr. Minnie Denton of the Home Economics Department of George Washington University, and Grace H. Hunter, Chief Dietitian, Walter Reed General Hospital.

Carolyn Miller and Miss Durnell have left Columbia Hospital. Miss Miller has accepted a position in School lunchroom work in Philadelphia.

Miss Fitzgerald left Emergency Hospital and is located in Washington, working with doctors on private cases.

The Philadelphia Dietitic Association meetings have been especially interesting this last fall because in character they have been unique. In October the Association was invited by one of Philadelphia's large department stores, Strawbridge and Clothier, to spend an afternoon with them. Miss Strol, director of their Lecture Bureau, planned the program. Each member met in the main dining-room for luncheon, after which the members were shown the kitchens, dining rooms, store rooms and pantries. The guests were then taken to the clubroom and Mr. L. Fountain gave a very interesting talk on the organization of his dining rooms. His entire talk brought out the point that although they catered to thousands, each person must be treated as an individual problem if a lunch room manager wishes his food to appeal to the public. Miss Strol then introduced the Fall Fashion show which was very well conducted. The guests then participated in bridge games with the assistance of a bridge expert also furnished by the store management. The entire afternoon was most interesting.

On November 29 the Association decided they were interested in some of Philadelphia's historical background. And as Steven Girard was one of the important men in the city's early history, Mr. Zessinger, purchasing agent for Girard College, gave an illustrated lecture on the life and activities of this famous man. At the same meeting the members enjoyed a report of the National Dietetic Meeting given by Miss Stockwell. Miss Stockwell is doing graduate work at Columbia University this year and was able to attend the National meeting; she very kindly came from New York to give a most interesting report.

For the past year the Association has been looking forward to a long promised visit and lecture by Katherine Fisher of the Good Housekeeping Institute. Arrangements were made, and on December 12th Miss Fisher gave a very interesting description of the organization of her Department. The Philadelphia Home Economics Association and the Student Clubs of Philadelphia were also invited to the meeting.

The January meeting of the Philadelphia Home Economics Club was held at the William Freihofer Bakery Company. The members, about 150, met in the Auditorium of the plant and were first entertained by an interesting moving picture given by Mr. Nirth of the Fleishman Yeast Company. The guests were then taken in groups through the entire plant, said to be the largest bakery in the United States. Refreshments were served by the company and enjoyed by all the guests.

The Executive Officers of the Philadelphia Dietetic Association gave a dinner December 12th for Katherine Fisher, of Good Housekeeping Institute, and the executive Committee members of the Philadelphia Home Economics Association at the City Club.

The Drexel Institute Institutional Club has planned interesting meetings for the winter. The girls have invited dietitians from the different types of institutions in the city to tell of their work. These inspirational talks give the girls a clear insight into active organizations and helps to give them a clearer understanding of the institutional work in which they are most interested.

Quebec Dietetic Association. Miss E. Law of the Willow Tea Rooms, Montreal, has offered a room to the Association as a permanent meeting place for their monthly meetings; this offer has been gratefully accepted.

Mr. and Mrs. Alex Ree announce the arrival of a daughter.

Elizabeth Hanes has returned to Montreal to take charge of the new Royal Bank lunch room which will be open in a short time.

The Association was guest of the Society of Chemical Industry on December 14th to hear Prof. Lecointe of École Polytechnique, Montreal, speak on Household Chemistry.

The Grand Rapids Dietetic Association was organized in March, 1926, adopted a constitution, and elected the following officers: President, Ella M. Eck; Vice President, Mary A. Harman; Secretary-Treasurer, Helen Bradford. Monthly meetings have been held at which a number of helpful papers, discussions and abstracts have been given by the members. At the December meeting held at Blodgett Memorial Hospital, Dr. Helen Mitchell of the Nutrition Laboratory of the Battle Creek Sanitarium, gave a most interesting talk on some of the newer phases of nutrition. This meeting was well attended, not only by the dietetic group, but by a number of doctors and nurses who were invited to hear Dr. Mitchell. The Association plans to have a number of these open meetings, with an outside speaker, to supplement the work done by the members at the regular monthly meetings.

Rhode Island Dietetic Association. The engagement of Miss Nettie M. Ray to Mr. Adelbert Wilkinson has been announced. Miss Ray is dietitian at the Sayles Memorial Hospital, Pawtucket, Rhode Island.

Eileen Shankel who recently completed her student dietitian work at the Rhode Island Hospital has accepted the position of assistant dietitian at the Providence City Hospital.

Friends of Gertrude E. Miller, dietitian of the Rhode Island Hospital, will be pleased to hear that she is rapidly recovering from her recent operation.

Jean McMurty has accepted the position of assistant dietitian at the Meriden Hospital, Meriden, Connecticut. Miss McMurty took her student dietitian training at Butler Hospital, Providence, R. I.

Dorothy Walker who has been assistant dietitian at the Providence City Hospital for the past four years was married December 17 to Dr. Wilfred Gore. Dr. and Mrs. Gore will reside in Wareham, Mass.

The Association, although a small organization, has its regular monthly meetings which are well attended. Our January meeting was a dinner meeting and was held at the Providence Commercial High School. Professor Philip H. Mitchell of Brown University spoke on "Modern Ideas of the Balanced Ration." The subjects to be discussed at the next two meetings are "Basal Metabolism" and "Pernicious Anemia." Alice Flint is Secretary of the Association.

Florence Shippee left Butler Memorial Hospital to accept a position as head dietitian of the Mercer Hospital of Trenton, New Jersey, Elizabeth Adams succeeded Miss Shippee at Butler.

Isabel Feveday after several months travel in the West has taken the position of dietitian at Twin Falls Hospital, Twin Falls, Idaho.

Mrs. Elsie N. Sherman, who recently completed the course for Student Dietitians at the Pennsylvania Hospital in Philadelphia, has accepted a position as chief dietitian at the Orthopaedic Hospital in Philadelphia.

Viola Holmes has succeeded Anne Morrison at the West Jersey Horner Hospital at Camden New Jersey. Miss Morrison has taken charge of the Dietitic Department at McKinley Hospital, Trenton, New Jersey.

PERSONAL NEWS NOTES

Mary Aschenbrener, formerly of Fitzsimmons Hospital, Denver, Colorado, has gone to the Childrens' Hospital, Honolulu, Hawaii.

Edith Beshore is now connected with the Battle Creek Food Company and has her headquarters in Low Angeles, California.

Constance Bohman is attending Columbia University this winter. Previous to this she was dietitian at the United States Veterans' Hospital, Rutland Heights, Mass.

Beulah Bowen has accepted the position of dietitian at the William Booth Memorial Hospital, Covington, Kentucky. During the past year she had charge of the Puritan Restaurant at Freeport, Ill.

Lida Burrill writes that she is now located at the United States Veterans' Hospital, Fort Snelling, Minnesota.

Fern Clarke may be reached at the John Sealy Hospital, Galveston, Texas, where she is dietitian.

Winifred Conwell has left the United States Veterans' service and has accepted a position at the Knickerbocker Hospital, New York City.

Mary Cunningham, formerly of the German Evangelical Deaconess Hospital, Chicago, has accepted a position at the Westlake Hospital, Melrose Park, Ill.

Beulah Day has left the Allegheny Valley Hospital, Tarentum, Pennsylvania, and is now at her home, 305 Paisley Road, Guelph, Ontario, Canada.

Ruth Dodge has been transferred from the United States Veterans' Hospital, Perry Point, Maryland, to the United States Veterans' Hospital, American Lake, Washington.

Agnes English has gone to the Presbyterian Hospital, New York City. She was formerly at the Colorado General Hospital, Denver, Colo.

Dorothea Fletcher has accepted the position of assistant dietitian at the Iowa Methodist Hospital, Des Moines, Iowa. Miss Fletcher recently completed her training at the Methodist Hospital, Indianapolis, Ind.

Frances B. Floore has gone to the University Hospital, Ann Arbor, Michigan. Miss Floore returned this year from San Juan, Porto Rico, where she had been chief dietitian at the Presbyterian Hospital.

Audree Hubbard, formerly of 903 Collinwood Avenue, Akron, Ohio, may be reached at 1588 Ansel Road, Cleveland, Ohio.

Blanche Joseph is now located in Chicago where she is engaged in consultant work. Previous to this, Miss Joseph was the chief dietitian with the Horlick's Malted Milk Corporation.

Edna Klumb, formerly assistant dietitian at St. Mary's Hospital, Rochester, Minnesota, has accepted the position of therapeutic dietitian at the University Hospital, Ann Arbor, Michigan.

Eunice Longworth has gone to the University Hospital, Iowa City, Iowa, as dietitian in the Children's Hospital there. After completing a dietetic interneship at Iowa City, Miss Longworth went as dietitian to the Metropolitan Insurance Company Sanitarium, Mt. McGregor, N. Y., and only returned to the middle west a short while ago.

Florence Nolan is now dietitian at Mt. Sinai Hospital, Chicago, Ill.

Neva Betz and Frances Daily are the proprietors of the Hermitage Coffee Shop, 1735 W. Harrison Street, Chicago, which has just opened for business. Miss Betz and Miss Daily were the dietitians at Akron City Hospital for some time.

Ruth S. Pelton is now located at the Canfield Hospital, Washington, D. C.

Maude Perry writes that she is enjoying a vacation in California this winter.

Ola B. Raymond has gone to Alberquerque, New Mexico, to spend several months with her sister there.

Gertrude Riale has resigned her position at the Home for Incurables, Baltimore, Maryland, to accept the position of dietitian at the Union Memorial Hospital in the same city.

Nelda Ross is now engaged in continuing her studies at the University of Chicago. Miss Ross was previously located at the University Hospitals, Iowa City, Iowa.

Ellen Sattre has returned to her position as chief dietitian at St. Luke's Hospital, St. Paul, Minnesota.

Josephine Williams has accepted the position of therapeutic dietitian at Montefiore Hospital, New York City.

Nellie B. Wilson, formerly of the Blossburg State Hospital, Blossburg, Pennsylvania, is now located at Edinburg, Texas.

REPORT OF THE SOCIAL SERVICE SECTION OF THE AMERICAN DIETETIC ASSOCIATION, 1926–1927

At the meeting of the American Dietetic Association, held in Atlantic City in October, 1926, Frances Stern was appointed Chairman of the Social Service Section and empowered to choose her own committee. The following were the members so appointed:

Anna DePlanter Bowes, Child Health Association, Philadelphia.
Florence Bateson, Johns Hopkins Hospital, Baltimore.
Bertha Edwards, E. Harlem Health Centre, New York.
Helen Nichols, Cornell Clinic, New York
Jean Reyner, Boston Dispensary, Boston, Massachusetts.
Rachel Saunders, Infant Welfare Society, Chicago.
Carlotta Sloan, Stanford University Hospital, San Francisco.
Gertrude Spitz, Massachusetts General Hospital, Boston.

Leaders in the various fields of nutrition were requested to serve as a Consultant Group. The following list graciously volunteered such service.

Anne E. Boller, Box 71, Riverside, Illinois.
Martha Davis, Scripps Metabolic Clinic, LaJolla, California.
Margaret Edwards, American Child Health Organization, 370 Seventh Avenue, New York City.
Lucy Gillett, Association for Improving the Condition of the Poor, New York, N. Y
Constance Hart, Supervisor of Lunch Rooms, Cleveland, Ohio.
Fairfax Proudfit, Memphis General Hospital, Memphis, Tenn.
Lydia J. Roberts, University of Chicago, Chicago, Illinois.
Dr. Mary S. Rose, Teachers College, Columbia University, New York City.
Margaret Sawyer, Postum Cereal Company, New York, N. Y.
Florence H. Smith, St. Mary's Hospital, Rochester, Minnesota.
Dr. Louise Stanley, Washington, D. C.
Florence Ward, Extension Service, Department of Agriculture, Washington, D. C.
Edna White, Merrill Palmer School, 71 E. Ferry Street, Detroit, Michigan.

The Section has been ably guided and considerable work has been accomplished by the various chairmen.

Under the guidance of Mrs. Mudge, two valuable studies of Italian and Polish Dietaries were undertaken. The result of her findings were reported in the *Journal of Home Economics*, as at that time, the American Dietetic Association had no official journal of its own.

The special piece of work initiated by Miss Saunders and her committee was a questionnaire, sent out to many community dietitians to get data concerning their organization, purpose, procedure, methods, educational material, records, etc. Inasmuch as this group had not been organized, the responses were few in number and the data insufficient for a statistical study and statement. This questionnaire, however, served as a means of introduction, and acquainted many dietitians with the purpose of the section.

The present 1926–1927 committee appreciates the beginning made by the former committee, realizing that much spade work must be done before certain data is available and before a membership of a section can be established.

Several meetings of the present committee were held throughout the year and the chairman wishes to acknowledge her debt to the committee for their active interest and help. Gertrude Spitz, a most efficient Secretary, and Jean Reyner, Vice Chairman, carried as much responsibility as the Chairman and were equally devoted and enthusiastic in the development of the work of their committee.

The geographic situation allowed several meetings in Boston of the Committee living there and one meeting held in New York when all but two members were present.

No draft was made on the budget this year as the members contributed typewriting, mimeographing, and postage through the various organizations with which they are associated, and financed their own traveling expenses.

The office of the Business Manager, under Mrs. Richmond, has been most helpful in sending out material. The Social Service Section has always been handicapped by not having a mailing list of dietitians interested in the field, and have considered dietitians in the following groups as possible members who might be interested in the American Dietetic Association through their Section.

1. Out-Patient or Clinic Dietitian.
2. Child and Infant Welfare Associations.
3. Relief Organizations.
4. Nursery Schools.
5. Nutrition Supervisors with City Boards of Education and Boards of Health.
6. Nutritionists with State Department of Public Health and Extension Workers.
7. Nutrition Centres.
8. Tuberculosis Organizations.
9. Nursing and Health Associations.
10. Educational Commercial Organizations.

The Section's previous participation in the Annual Convention program was a section meeting with varied and interesting programs. This year, however, as a result of the work of the committee, instead of having a section of their own, the Social Service Section participated in the programs of the other sections; education, diet therapy and general.

This demonstrated clearly to the heads of the sections, to the executive committee and to members of the Association, that the interests as well as the subject matter are the same in the fields of dietotherapy and education, but the application may vary to meet the needs of the ambulatory patient. Due appreciation must be given for this accomplishment to Margaret Sawyer, Chairman of the Program Committee, whose past experience in the many fields of dietetics and whose vision for the future saw the underlying principle for which the Committee was striving:—the unity of the hospital and clinic dietitian and their goal—the care of the patient.

At the meeting in New York, in anticipation of the National meeting, Bertha Edwards was appointed to send out a communication to community dietitians and to formulate their answers as a basis of discussion at the special interest luncheon at which Jean Reyner presided. (See appended questionnaire.) While the replies were meager, again it served as a message to make the community dietitian more conscious of her relation to the American Dietetic Association.

The following were the speakers and subjects on the Convention Program, October, 1927.

Education: The Field of Dietitian in Out-Patient Work. Frances Stern, Food Clinic, Boston Dispensary.

Diet therapy: Diet therapy in Ambulatory Cases. Dr. William H. Olmsted, Barnes Hospital, St. Louis. The Relation of the Dietitian to the Out-Patient Department. Dr. Arthur E. Strauss, Out-Patient Department, Barnes Hospital, St. Louis.

The name of the section is only indicative of its interest in allied fields of medical work and implies the necessity of coöperating effort and material interests of community and social dietetics with social service activities. "Social Service" connotes a special group of workers in the extensive field of social organization. To this end the committee believes that the name does not represent the work and workers included in this section. They hope to make suggestions to the Executive Committee for renaming the section. Some discussion has been forthcoming, which will be developed more intensely during the year, that the Social Service Section be disbanded and that the interests of the community

dietitian be included in each of the other sections. The Community or Social Service Dietetic Group could serve as a sub-committee, or sub-section of each of the sections in which they have interests. So perhaps the Social Service Section will be adopted into new families and in that case need not concern itself with its name, but its purpose.

Another constructive contribution to this section was the formulation, by Gertrude Spitz of the Out-Patient Department of the Massachusetts General Hospital, of the requisites of an out-patient dietitian.

The future work of the Social Service Section, whether as a separate section, or as contributing to other sections, may be expressed under two headings:

A. *Purpose:* To coöperate with those sections already organized, as well as those which may be organized in the future from the point of view of the ambulatory patient, representing the work of a clinic or community dietitian.

B. *Program of work:* A special group of clinic or community dietitians, now in the Social Service Section, or within the other sections, should consider:

1. Diet in their field in terms of research.
2. Coördination of dietary work in like or allied organizations.
3. Compilation of material from all groups in the section, such material to be kept on file for information and study.
4. Courses of study for student dietitians, nurses and other health workers.
5. Compilation of bibliography, particularly needful for workers in this section.
6. Standardization of nutrition history cards or any other record information for study and research.

For the continuity of the work of this Section, and through it, the furthering of the American Dietetic Association, the committee asks that the American Dietetic Association request its members to submit a list of community dietitians throughout the United States and Canada in any field concerned with diet therapy, nutrition or diet in health outside the wards of the hospital. To this end the Section may have from this extensive group, records, forms and all other material used in the work.

Respectfully submitted,

FRANCES STERN, *Chairman.*

THE PRESENT STATUS OF THE SURVEY OF HOSPITALS GIVING THE APPROVED COURSE FOR STUDENT DIETITIANS

K. MITCHELL THOMA

Chairman, Section on Education

The outline of a standard course for student dietitians as it was approved at the meeting of the American Dietetic Association in October, 1927, was published in the December JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION. Since then it has been published with an explanatory note in *Hospital Management;* a descriptive paragraph was also published in the *Journal of Home Economics*, and in *Modern Hospital.* In each publication the statement was made that a list of hospitals offering this approved course to student dietitians would be published in the March number of THE JOURNAL OF THE AMERICAN DIETETIC ASSOCIATION, and that complete information could be obtained by writing to the office of the American Dietetic Association.

In addition to this general publicity, a copy of the outline, a Questionnaire, and an explanatory letter were sent out by a Committee of the Section on Education to a list of hospitals offering courses to student dietitians. It was of course impractical to send this material to all hospitals. The list of hospitals was drawn up by members of the Committee working in different sections of the country; an effort was made to reach all dietitians in hospitals offering courses to student dietitians, and at least one dietitian or superintendent in every large city. At the end of the Questionnaire, the request was made that the names of dietitians or superintendents in the vicinity, to whom the Questionnaire should be sent, be listed. As the Questionnaires were returned the additional names were checked against the list already mailed. In all 302 hospitals were reached and 75 replies were received by February 10, the date when it was necessary to get this material in to the Editor.

From the statements made on the Questionnaires the hospitals below are following the approved outline. Some of these hospitals are including much more than the essentials required by the approved outline. The committee has made no effort to judge quality of work offered at any institution. The next logical step would be an arrangement for hospital

inspection, so that it may be ascertained whether or not the institution is following the spirit as well as the letter of the outline. There are also hospitals, not listed, where students are unquestionably receiving very valuable training, but at present students in these hospitals are not being given experience in every phase of hospital dietetics. For example, some of these lack work with feeding of children or infant formulae. Others offer no experience with private room service, but do have excellent opportunities for study of diet therapy and observation in administrative routine. In working out the standard outline it was suggested that these hospitals might affiliate for that phase of the work lacking. It was felt that any approved course should at least give the student an introduction to all branches of hospital dietetics.

Some of the hospitals included on the list have made arrangements for affiliation. Others not included find it impractical to do so. Possibly hospitals lacking only one phase of the work, but offering exceptionally good experience otherwise, might be listed conditionally or with an explanatory phrase. Such special arrangements must be made with the Executive Committee. This committee was not authorized to make any exceptions and lists below only those hospitals which are following the approved outline. The list will appear again in the June issue of the JOURNAL. At that time it may be supplemented by the names of more hospitals. Perhaps some were slow in mailing in the Questionnaire; perhaps others will have made adjustments to meet the requirements of the approved course. Complete information may be obtained by writing to the business office of the American Dietetic Association.

Hospital	*City*	*Dietitian*
California:		
California Lutheran	Los Angeles	Reeva Hinyan
Connecticut:		
Bridgeport General	Bridgeport	Leslie Hunter
Illinois:		
Cook County	Chicago	Millie Kalsem
Michael Reese	Chicago	K. Mitchell Thoma
Evanston	Evanston	Lorah E. Osborn
Indiana:		
Indiana University	Indianapolis	Lute Trout
Methodist	Indianapolis	Margaret Marlowe
Iowa:		
University of Iowa	Iowa City	Kate Daum
Maryland:		
Johns Hopkins	Baltimore	Phyllis Rowe

Massachusetts:		
Children's Hospital	Boston	Martha Stewart
Massachusetts General	Boston	Rosina Vance
Peter Bent Brigham	Boston	Thelma Tubbs
Michigan:		
University Hospital	Ann Arbor	Margaret Gillam
Minnesota:		
Ancker Hospital	St. Paul	Winifred Howard
Charles T. Miller	St. Paul	Eva Bregorson
Minneapolis General	Minneapolis	Lois Hurlbutt
Missouri:		
Barnes Hospital	St. Louis	Eugenia Martin
Kansas City General	Kansas City	Merle Buckles
Research Hospital	Kansas City	M. Ethel Ollis
New York:		
Albany Hospital	Albany	Virginia Howard Ray
Clifton Springs Sanitarium	Clifton Springs	Helen Clark
Lebanon Hospital	New York City	Betsy Helburn
Montefiore Hospital	New York City	Mary Northrop
Presbyterian	New York City	Martha Koehne
Rochester General	Rochester	Effie Winger
Strong Memorial	Rochester	Grace Carden
North Carolina:		
Watts Hospital	West Durham	Mary Ellis
Oklahoma:		
State University of Oklahoma	Oklahoma City	Edith Tilton
Pennsylvania:		
Homeopathic Hospital	Pittsburgh	Irene Wilson
South Carolina:		
South Carolina Baptist	Columbia	Leila Maude Tace
Utah:		
Latter Day Saints Hospital	Salt Lake City	Katherine Baily
Washington, D. C.:		
Walter Reed General	Washington	Grace Hunter
Washington:		
Tacoma General	Tacoma	Flora McLaughlin

(Signed) K. MITCHELL THOMA,
THELMA TUBBS,
EUGENIA MARTIN.

ADDRESSES FROM WHICH MAIL HAS BEEN RETURNED

Adams, Alice L.	1017 Eighth Ave., Oakland, Calif.
Barcalow, Helen C.	Suburban Hospital, Bellevue, Pa.
Clayton, Pauline	Rivermere Apartments, Bronxville, N. Y.
Cross, Gwynola	Alabama Baptist Hospital, Selma, Ala.
Eckley, Gladys Norton	Jackson Park Hospital, Chicago, Ill.
Galloway, Hazel Winders	Childrens' Hospital, Hollywood, Calif.
Goetz, Theresa	25 E. Linden Ave., Atlanta, Ga.
Green, Helen	Corning Hospital, Corning, N. Y.
Johnson, Esther K.	Jerseyhurst, Lake Geneva, Wisc.
Pontz, Bess	Taylor Hospital, Ridley Park, Pa.
Rose, Lorena	Watts Hospital, West Durham, N. C.
Rohrbach, Grace	908 9th St., Brookings, S. D.
Wait, Bernice	5728 Woodlawn, Chicago, Ill.

NEW MEMBERS

(November, December and January)

Andres, Helen C.	Baltimore Dairy Council, Baltimore, Md.
Baker, Gloria Gould	Fort MacKenzie, Sheridan, Wyo.
Barlow, Effie Garrett	R. F. D. No. 1, Star, Miss.
Boley, Mildred	Box 355, Athens, Ga.
*Bonnell, Mildred	Michael Reese Hospital, Chicago, Ill.
Bowen, Helen	Presbyterian Hospital, Denver, Colo.
†Brown, Esther Williams	218 N. Seventh St., St. Louis, Mo.
Bruce, Helen M.	St. Luke's Hospital, New Bedford, Mass.
†Callahan, Margaret	St. Joseph's Hospital, Baltimore, Md.
Canham, Louise O.	New Haven Hospital, New Haven, Conn.
*Caster, Della	Michael Reese Hospital, Chicago, Ill.
†Catlin, Laura L.	U. S. Marine Hospital No. 1, Baltimore, Md.
†Clarke, Sue	Alexandria Hospital, Alexandria, Va.
Corsant, Louise	General Hospital, Ellensburg, Wash.
†Dickinson, Dorothy Goff	Ellis Hospital, Schenectady, N. Y.
Dodge, Bernice	University of Wisconsin, Madison, Wisc.
Drugswald, Lillian	St. Margaret Hospital, Hammond, Ind.
*Dunklin, Lorine	Michael Reese Hospital, Chicago, Ill.
*Dunlap, Ann	Murray Hospital, Butte, Mont.
*Dunphy, Cornelia	St. Mary's Hospital, Amsterdam, N. Y.
*Durkes, Elizabeth	Franklin Grove, Ill.
Earl, Charlotte	Clifton Springs Sanitarium, Clifton Springs, N. Y.
Elliot, Hortense E.	Iowa State College Hospital, Ames, Iowa
*Fletcher, Dorothea	Iowa Methodist Hospital, Des Moines, Iowa

* Junior Members.

† Associate Members.

*Golder, Mary E.....Presbyterian Hospital, Chicago, Ill.
†Hamilton, Erna.....Grace Hospital, New Haven, Conn.
Hammett, Betty W.....Harvard Varsity Club, Cambridge, Mass.
†Henderson, Constance M.....Charlotte Hungerford Hospital, Tarrington, Conn.
Henderson, Mildred.....Carthage College, Carthage, Ill.
Hill, Mary J.....Bethany Hospital, Kansas City, Kans.
*Hintz, Elizabeth.....Michael Reese Hospital, Chicago, Ill.
†Hollingshead, Vera.....Research Department, Childs Company, New York City
Hoskins, Carrie.....Cook County Hospital, Chicago, Ill.
*Hoskins, Maurine.....Sioux Rapids, Iowa
*Hottenstein, Adda.....3243 E. Pine, Wichita, Kansas
Howland, Jeanette A.....Hochschild Kohn & Company, Baltimore, Md.
Jessup, Mildred.....176 Palisade Ave., Jersey City, N. J.
Johnson, Mary Elizabeth.....Lutheran Hospital, St. Louis, Mo.
King, Marion B.....Battle Creek Sanitarium, Battle Creek, Mich.
Lauche, Gertrude.....Cincinnati General Hospital, Cincinnati, Ohio
*Lemmon, E. Theresa.....Michael Reese Hospital, Chicago, Ill.
†Lewis, Ethel.....Majestic Hotel, Hot Springs, Ark.
*Lucas Marion.....University Hospital, Ann Arbor, Mich.
MacMillan, Elizabeth.....Crocker Hall, Framingham Center, Mass.
*Mann, Wilma.....3665 Humphrey St., St. Louis, Mo.
Mayfield, Meredith.....University Hospital, Oklahoma City, Okla.
*Maxey, Marguerite.....Michael Reese Hospital, Chicago, Ill.
†Merrill, Frances.....416 S. 14th St., Sheboygan, Wisc.
*Mills, Margaret L.....Clifton Springs Sanitarium, Clifton Springs, N. Y.
Mitchell, Edna Clark.....213 Hazel Ave. S., Ames, Iowa
Molfino, Marguerite.....Mater Misericordiae Hospital, Sacramento, Calif.
Monsch, Helen.....Cornell University, Ithaca, N. Y.
Morton, Elizabeth Bickley.....Research Hospital, Kansas City, Mo.
†Munro, Frances E. A.....St. Joseph's Hospital, Paterson, N. J.
*McCready, Margaret.....Michael Reese Hospital, Chicago, Ill.
McMakin, Edith.....Orange General Hospital, Orlando, Fla.
McNish, Hazel.....Wesley Hospital, Chicago, Ill.
*Nesladek, Martha E.....Lebanon Hospital, New York City
*Netz, Norita.....Northern Pacific Hospital, St. Paul, Minn.
Norton, Mary E.....Massachusetts General Hospital, Boston, Mass.
Oestreich, Evelyn.....1753 W. Congress St., Chicago, Ill.
Phillips, Angeline.....Fifth Avenue Hospital, New York City
Porter, Hazel S.....221 S. Ashland, Chicago, Ill.
*Resnick, Rhoda S.....526 Robie St., Halifax, N. S., Canada
Reynolds, May Statler.....University of Wisconsin, Madison, Wisc.
*Rose, Frances E.....Iowa Methodist Hospital, Des Moines, Iowa
†Rouvier, Bertha.....New Hampshire Memorial Hospital, Concord, N. H.
*Sagert, Inez O.....Auburn City Hospital, Auburn, N. Y.
Schmidt, Lola.....Battle Creek College, Battle Creek, Mich.
†Scott, Myrtle K.....Griffin Hospital, Derby, Conn.
Smith, Bessie M.....404 S. Oak St., Pratt, Kans.
Smith, Lavinia.....Mission Hospital, Ashville, N. C.
Smith, Thelma.....Presbyterian Hospital, New York City
†Soden, Laura.....2070 E. 93rd St., Cleveland, Ohio
†Sorensen, Mary.....Baptist Memorial Hospital, Memphis. Tenn.

Staf, Ella.....127 Bridgham St., Providence, R. I.
Stough, Hazel.....Wesley Hospital, Oklahoma City, Okla.
Taylor, Gwendolyn.....Montreal General Hospital, Montreal, Canada
*Teigen, Agnes.....Brandon, Minn.
Temple, Eloy Gustafson.....University Hospital, Augusta, Ga.
†Ten Eyck, Dorothy.....Mt. Sinai Hospital, Chicago, Ill.
Tilt, Jennie.....Florida State College, Tallahassee, Fla.
Tipple, Frances K.....The Girls' Industrial School, Milwaukee, Wisc.
*Trammell, Cleoris.....Piedmont Hospital, Atlanta, Ga.
Tremaine, Geraldine.....Buffalo City Hospital, Buffalo, N. Y.
*Uuruh, Anna J.....Iowa Lutheran Hospital, Des Moines, Iowa
†Vaughn, Zoe A.....U. S. Marine Hospital, Baltimore, Md.
Wagner, Grace Swallow.....Box 450, Miami, Fla.
*Waite, Abbie Deane.....108 S. Gregory St., Urbana, Ill.
†Webb, Clara.....Bethesda Hospital, St. Paul, Minn.
†Wilken, Charlotte.....Cook County Hospital, Chicago, Ill.
Wilson, Barbara Young.....Curis Hall, Jamaica Plain, Mass.
Wolf, Eva M.....U. S. Veterans' Hospital, No. 51, Tucson, Ariz.

REPRINTS AVAILABLE

Arthritis, Carbohydrate Studies in. Martha V. Nelson and Julian D. Boyd..... $.15
Banana, Place of The, In The Diet of Children. Joseph A. Johnston, M.D..... .12
Biliary Tract, Some Effects of Diet on the. Glover H. Copher..... .10
Boston's Surveys—1925 and 1926. Gertrude T. Spitz, A.B., A.M..... .12
Budgeting the Dietary Department and Purchasing Food Supplies. Lucius R. Wilson.. .10
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Civil Service and the Dietitian. Benjamin R. Andrews and Alice B. Leet..... .12
College Courses, Report on, for Prospective Dietitian. Abby L. Marlatt..... .10
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Diabetes, A Report of a Case with Complications. Fairfax T. Proudfit..... .15
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Dietaries, A Comparative Study of Italian, Polish, and Negro. Gertrude Gates Mudge..... .15
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Dietitians, Student, A Checking Scheme for Recording Special Abilities and Qualifications. Amalia Lautz..... .05
Diets Low in Water and Mineral Content, The Therapeutic Use of. Norman M. Keith, M.D., Florence H. Smith, B.S., and Mary Whelan, M.A..... .20
Emotions and Digestive Functions. George W. Henry, M.D..... .12

Food Clinic, The, As A Centre for Teaching and Training Students. Frances Stern and Jean Reyner ..... .18
Food Selection, Teaching, to Patients. Florence H. Smith, B.S ..... .15
Food Distribution Ledger Sheet. E. A. George ..... .08
Food Fads. Mary Pascoe Huddleson ..... .15
Food Habits, Intelligence and Character in Relation to. Haven Emerson ..... .07
German Diet, Changes in the. R. R. Kuczynski ..... .07
Gout, The Effect of Vegetable Purines on the Blood in. Ruth Wheeler and Bessie I. Wallace ..... .10
Health Clinic, Nutrition in a. Bertha Edwards ..... .12
Hospital Dietary Department, A Forecast. Malcolm T. MacEachern ..... .10
Hospital Dietitian, A View of the, from the Nursing Standpoint. Elizabeth A. Greener. .07
Hospital Food Bills, Economic Analysis of. Ruth Wheeler and Vivian Moe ..... .10
Hospital Food Bills, A Nutritive Analysis. Ruth Wheeler and Edna Shalla ..... .15
Hospital Kitchen, Equipment for a. Ruth M. Cooley ..... .08
Hotel Food Department, The Operation of a. Arnold Shircliffe ..... .12
Inorganic Salt Metabolism, Studies of. Walter Bauer, M.D., and Joseph Aub, M.D. .18
Job Analysis, Residence Hall. Elizabeth Bemis, Lenna Cooper and Mary Walton ..... .10
Karell Diet and a Modified Karell Diet. Edward G. Bannick, M.D., and Florence H. Smith, B.S ..... .12
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